NOVEMBER 7, 1942

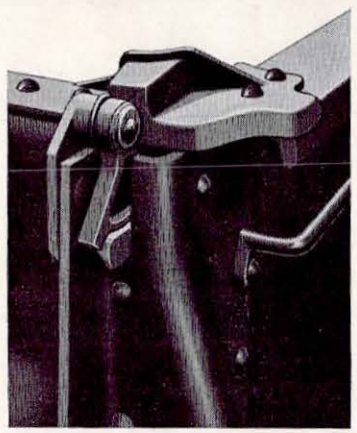
Railway Age

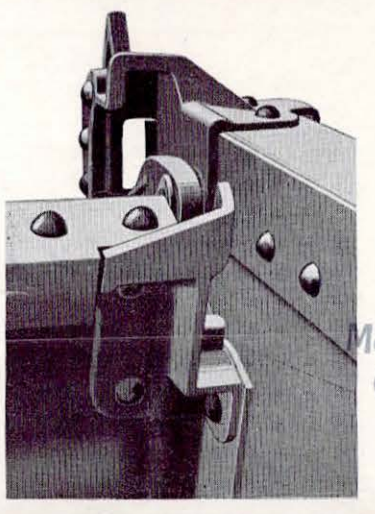
Founded in 1856

RIGID

...AS A SOLID END CAR

STURDY RUGGED INTER-LOCKING TOP CORNER





WINE

THE WINE RAILWAY APPLIANCE CO.
TOLEDO, OHIO

DROP END LOCK FOR GONDOLA CARS

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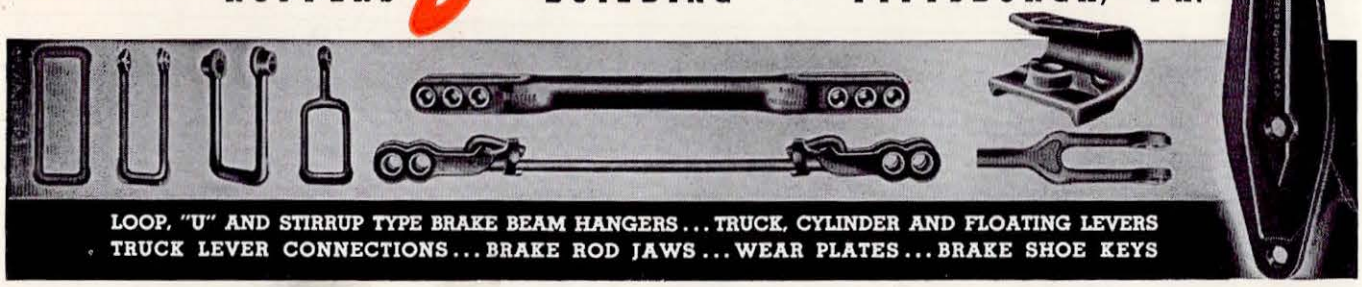
M56 20

Less Weight Longer Life

Schaefer Forged Steel Foundation Brake Gear Parts make for minimum service replacements. They are standard on 80% of cars in service.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.



LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS ... TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS ... BRAKE ROD JAWS ... WEAR PLATES ... BRAKE SHOE KEYS

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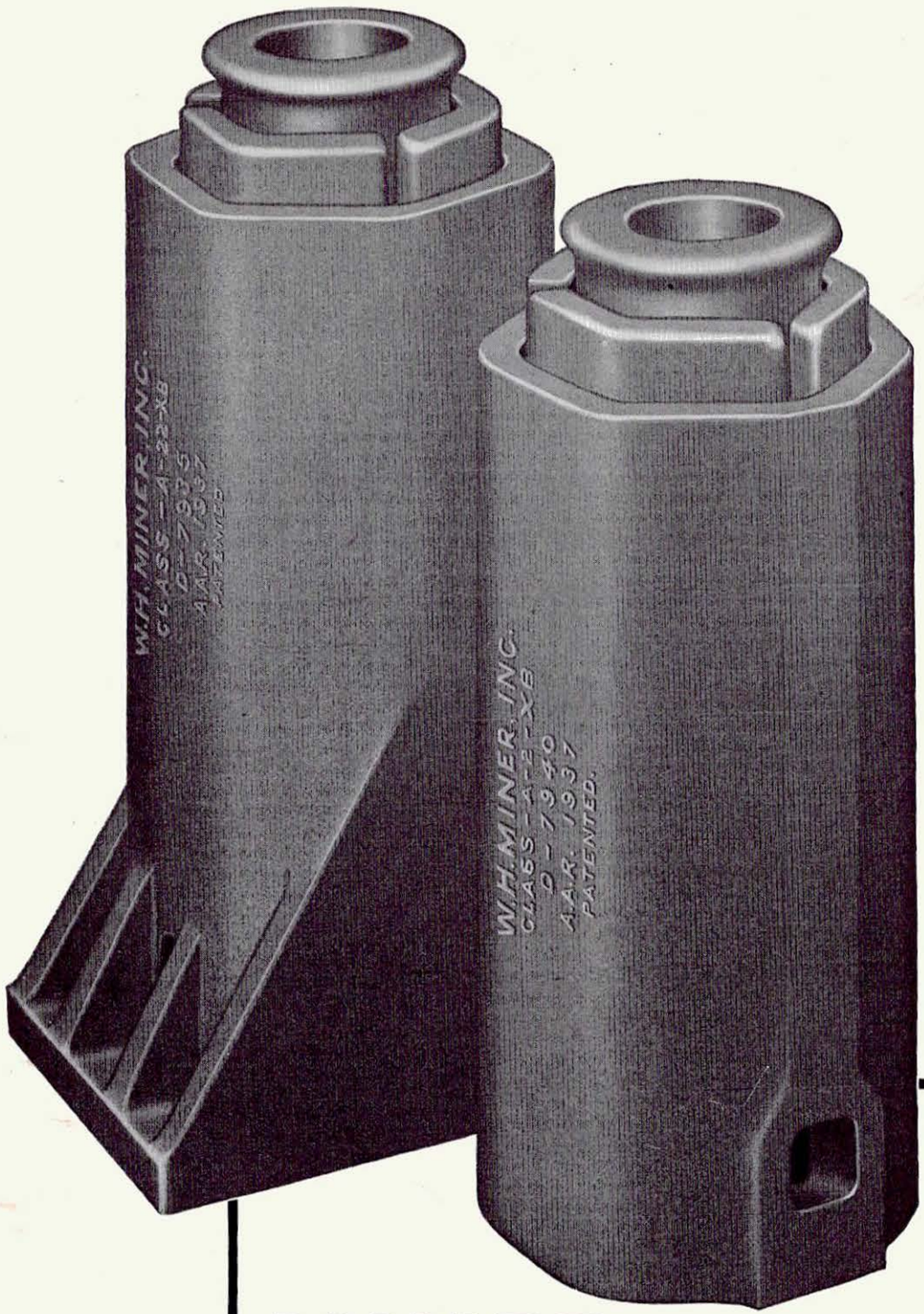


MINER

FRICTION DRAFT GEARS

POSITIVE IN ACTION — **STURDY IN CONSTRUCTION** — **ABSOLUTELY ● RELIABLE**

W. H. MINER, INC. CHICAGO

Our Congratulations to the Railroad Men of America . . . You Have Made the Impossible Task Look Easy . . . . . .

AMERICAN CHAIN & CABLE COMPANY, Inc.

BRIDGEPORT • CONNECTICUT

ESSENTIAL PRODUCTS . . . AMERICAN CABLE Wire Rope, TRU-STOP Emergency Brakes, TRU-LAY Control Cables, AMERICAN Chain, WEED Tire Chains, ACCO Malleable Iron Castings, CAMPBELL Cutting Machines, FORD Hoists and Trolleys, HAZARD Wire Rope, Yacht Rigging, Aircraft Control Cables, MANLEY Auto Service Equipment, OWEN Springs, PAGE Fence, Shaped Wire, Welding Wire, READING-PRATT & CADY Valves, READING Electric Steel Castings, WRIGHT Hoists, Cranes, Presses . . . *In Business for Your Safety*

All Holland Company Friction Volute Spring Patents as of October 18, 1935, were released to our government.

Photo by U. S. Army Signal Corps.

TANK CARS get Lots of *Action* Too!

Complete Assembly of Holland Volute Snubber Spring ready to slip into the spring group.

—and they are being equipped, more and more with

HOLLAND Style A-6 VOLUTE SNUBBERS

Tank Car shipments are shattering records every day—and tank cars, because of the very nature of their loads, are toughest on bolster springs.

For maximum shock protection, equip each spring nest with one Holland Volute Snubber Spring. This reduces spring breakage and damage to a minimum. Holland Volute Springs snub excessive vertical bolster spring action, thus preventing excessive bouncing, lurching, pitching and rocking.

We invite you to investigate Holland Volute Snubber Springs

The Improved Holland Snubber Spring

FOR THESE 6 REASONS

1—They eliminate 25% of potential spring breakage ● 2—Increase life of remaining 75% of standard coil springs ● 3—Add 4 standard springs (replaced per car) to your available stock of coil springs ● 4—Increase life of cars substantially ● 5—Decrease damage to lading ● 6—Reduce shocks on rail and roadbed.

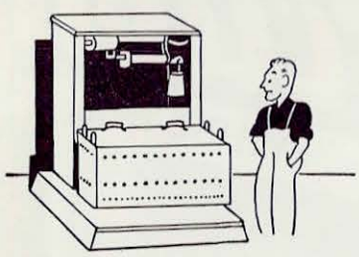
HOLLAND COMPANY

WRITE FOR BULLETIN

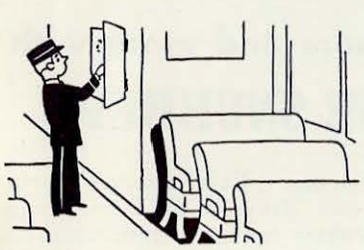
332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

33⅓ to 100% Up!

"Nowhere less than a third: some places 100%," is ODT's own estimate of increased passenger traffic, not including troop movements. Since the bulk of this increase is borne by existing equipment, the added burden placed on storage batteries is identically great. But alkaline batteries thrive on hard work, long ago proved their dependability against unpredicted failure on runs.



Weight Conservation. Conservation of weight is vital today in equipment utilization, fuel consumption and running time. Every pound saved literally means that much gain in the job a railroad has to do. Cars Edison-equipped are not only lighter in total weight—they are more efficient for having that much less strain on the structural framework.



Extra Dividends. Passenger car batteries today have to be prepared to accept more varied run conditions than before. So, the foolproof electrical characteristics of Edison Alkaline Batteries are giving bigger dividends in freedom from trouble than before. Their ability to withstand the overcharging incidental to variations in run conditions is one of these dividends.

Edison Storage Battery Division
Thomas A. Edison, Inc.
WEST ORANGE, N. J.

POWER
delivered as ordered

What the public is finding out about the railroads, railroads are finding out about batteries: never was the value of dependability greater. As the railroads are standing up under their super-job, so are alkaline batteries standing up superlatively well under trying conditions of service. Never was the predictable performance of alkaline batteries more appreciated; because a failure of a battery means waste of labor, perhaps delays in schedule and certainly general inefficiency.

Yes, Edison Alkaline Batteries have valuable attributes which particularly fit them to railroad requirements: 2 to 5 times longer life, light weight, greater ruggedness, great adaptability. But all these add up to one thing: utmost reliability in the jobs where they are most needed.

RAILROADS NEED THE DEPENDABILITY OF

Edison Alkaline BATTERIES

ON TOP OF THE SCRAP PILE

Corn-fed Nebraska had gone hog-wild about scrap iron.

Practically all of its 1,300,000 citizens—chiefly farmers and railroaders—were corralling scrap iron in a State-wide campaign.

The Omaha World-Herald had offered a $1,000 War Bond to the county turning in the most scrap per capita. It had also hung up $500 for the next best county.

From the "big city" Missouri River region to the Western "cow country" sand hills, 93 counties were after those prizes. Farmers raced railroaders to reach the scrap pile's top.

Nebraska farmers had raised 3,093,000 hogs in one year. They were about to raise a corn crop of 183,000,000 bushels. Each farm could yield a ton or more of old farm machinery. Phelps County, alone, had 1100 good farms.

The railroads of Nebraska really went into action. One system detailed 40 men to carry the scrap campaign into each county, while it shipped 10,000,000 pounds of scrap from one Omaha yard. Another system organized its men into County Scrap Drivers, while it shipped 2,000,000 pounds of scrap from an Omaha shop.

Big city stuff—but not so big per capita.

In Western Nebraska, Master Carpenter B. C. Phillips as Scrap Drive Chairman of his Division was steaming up Grant County railroaders. Grant County didn't promise much, being mostly cow ranches and sand, served by only one railroad. But among those properly steamed up was Vernon Moran.

With plenty of gimp, and with a smile on the face of him, Vernon Moran was a hard-working section hand whose sideline was hunting. From his headquarters at Hyannis, the County seat, he began hunting scrap among the County's 1327 inhabitants.

On his own time, and often, he putted into the hills with his Chevrolet pickup until he had picked up 96,953 pounds of iron! With Vernon's help, Grant County won first place in the State scrap race with a record of 846,559 pounds, which made 637 pounds per capita. Neighboring Hooker County won the Second Prize.

Grant County's $1,000 War Bond will be used, some day, to found a County Library. Section Hand Vernon Moran was handed a personal prize, $150—for the State's best individual scrap collection. Nebraska railroaders furnished more than a third of the 60,000 tons of scrap collected during the three weeks' campaign.

I'd like to shake the hand of Section Hand Vernon Moran.

—*The Trackwalker.*

AMERICAN LOCOMOTIVE ● GENERAL ELECTRIC

114-37-9500

Now is the time to keep

UNITED STATES

your tank cars rolling...

with U·S·S ONE-WEAR WROUGHT STEEL WHEELS

Change over to these safe, long mileage low-cost wheels when you shop your cars for spring snubber application

THE emergency has placed an unusually heavy burden on tank car equipment. Shopping cars for wheel replacements means delay in transporting vital war materials. The major cause of delay can be eliminated by the use of U·S·S One-Wear Wrought Steel Wheels under your tank cars.

CARNEGIE-ILLINOIS STEEL CORPORATION
Pittsburgh and Chicago

Columbia Steel Company, San Francisco, *Pacific Coast Distributors* · United States Steel Export Company, New York

4 reasons why

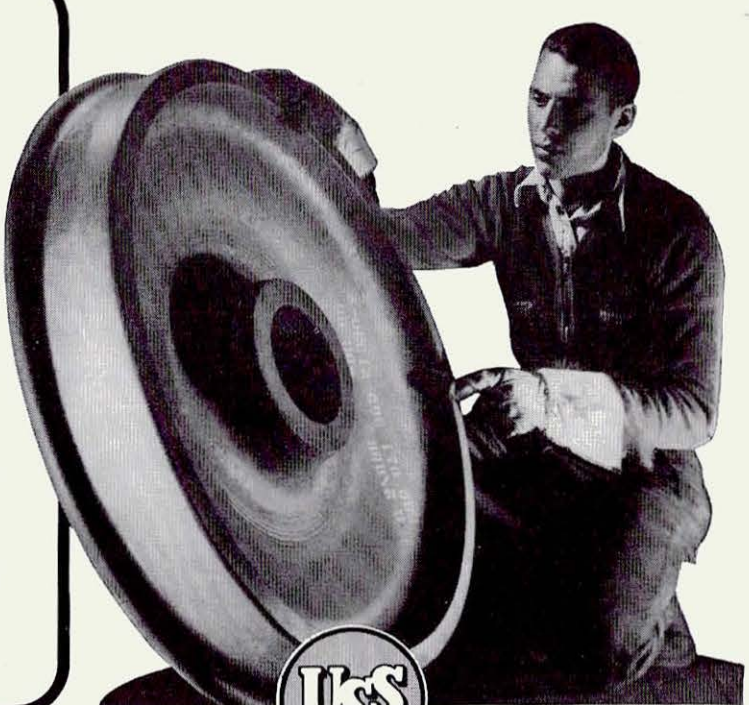
U·S·S ONE-WEAR WROUGHT STEEL WHEELS MEET THE NEEDS OF WAR-TIME FREIGHT SERVICE

1. LONG MILEAGE. Never more important than right now. Test mileages over 300,000 miles have been recorded for these wheels. However, for conservative calculations, you can anticipate 200,000 miles average under 50/55-ton service, and 160,000 miles average under 70-ton service.

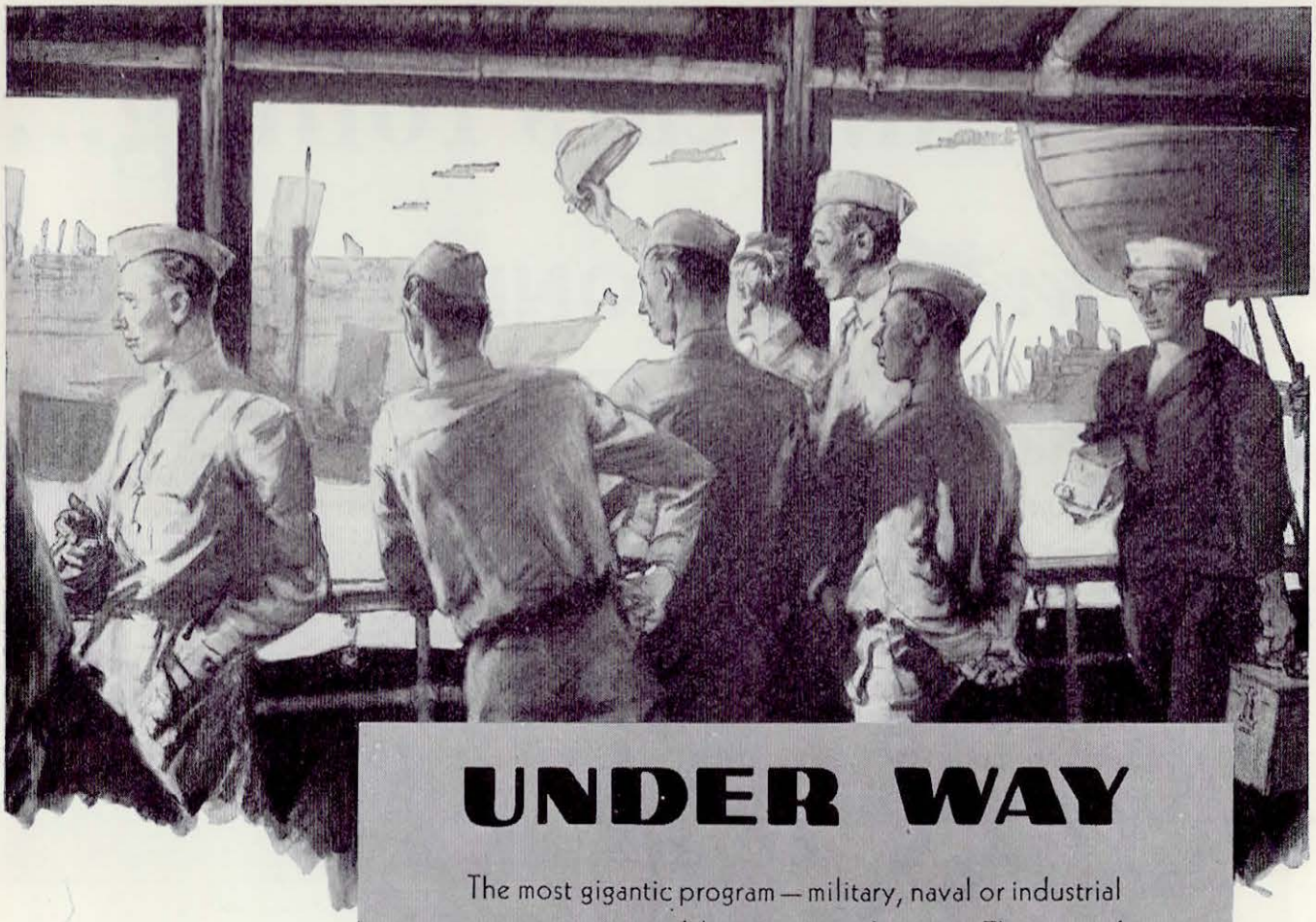
2. LOW COST. On a straightforward basis of cost per thousand miles, these wheels average less than 8 cents, and materially less than the cost of freight-car wheels of other construction.

3. GREATER SAFETY — means less traffic interruptions. Everywhere these wheels have been adopted, derailments and delays due to wheels have declined sharply. They give greater efficiency under heavy braking than wheels of other composition.

4. WHEELS LAST LIFE OF CAR. Wheel changes are a bugbear on interchange. They cost time, they cost money and they take cars out of service. With these wheels your entire truck assembly will stay in actual running service for the life of the car.



STEEL



UNDER WAY

The most gigantic program — military, naval or industrial — ever conceived by man is under way. The time of building factories, tooling up machines, laying out production lines is now past. The job itself is under way.

The U.S.A. is in high gear. Ships are slipping down the ways, tanks are rolling off the lines, planes are taking off from factory run-ways. American troops on the far-flung battle fronts of Democracy are getting what they need, in reinforcements and armaments. The fight is getting started in earnest. It will end when Uncle Sam says it is over. Here at General Machinery the management and the men feel the rhythm and magic of well organized production. There's a stimulating swing to it that the men of industry can sense as they go about their daily tasks. We know it's here — we see it — we hear it — we feel it. America is under way.

GENERAL MACHINERY
CORPORATION

HAMILTON, OHIO

THE NILES TOOL WORKS CO.
THE HOOVEN, OWENS, RENTSCHLER CO.
GENERAL MACHINERY ORDNANCE CORPORATION

HYDRAULIC ACCUMULATORS

AS the name implies, hydraulic accumulators are used for storing hydraulic power to ensure constant pressure as the power is being used faster than the pumps can produce it. It is the "flywheel" of a hydraulic system. Until recently, an accumulator was a cumbersome piece of apparatus, demanding constant expense for maintenance on account of the moving parts. Now it is built of welded plate construction with a forged steel head or a one-piece cylinder made from a solid.

WE have made a great number of forged steel heads for hydraulic accumulators. Those on one order are 45 3/4 inches in diameter with a metal thickness of 6 3/4 inches. They are an integral part of a vessel which will contain air, gas, or liquid at pressures up to 4500 pounds per square inch. The steel for these heads is made in the same furnaces and poured in the same molds as the steel from which we make our rolled steel wheels and locomotive tires. All three items are the last word in quality.

EDGEWATER STEEL COMPANY, PITTSBURGH, PA.

Sales Offices:

ATLANTA BALTIMORE BOSTON CHICAGO CLEVELAND KANSAS CITY
LOUISVILLE NEW YORK PHILADELPHIA PORTLAND ST. LOUIS ST. PAUL
SAN FRANCISCO SEATTLE TULSA WASHINGTON

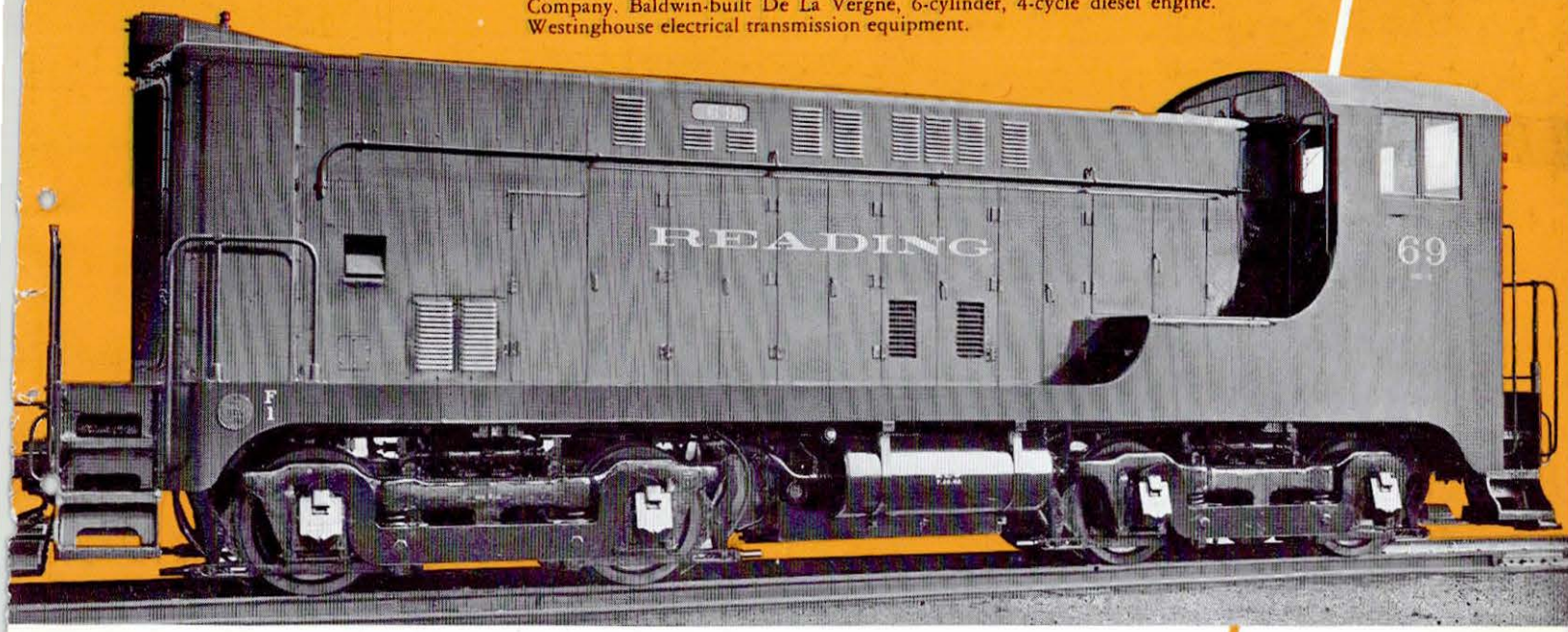
Baldwin Serves the Nation Which the Railroads Helped to Build

Baldwin

DIESEL-ELECTRICS

for Speed and Economy

Baldwin 1000-hp. Diesel-Electric switching locomotive for the Northern Pacific Railway. Baldwin-built De La Vergne, 8-cylinder, 4-cycle diesel engine. Westinghouse electrical transmission equipment.



Baldwin 660-hp. Diesel-Electric switching locomotive for the Reading Company. Baldwin-built De La Vergne, 6-cylinder, 4-cycle diesel engine. Westinghouse electrical transmission equipment.

Today, when America is depending more than ever upon its railroads to move men, raw materials and finished war products, there must be no delay in freight yards and terminals.

Baldwin Diesel-Electric switching locomotives are furnishing the answer to this problem in many railroad yards from coast to coast.

Baldwin Diesel-Electrics are engineered and built by specialists in the field of railway motive power, backed by 111 years of locomotive-building experience. These rugged locomotives have many advantages over steam switchers. They start faster and move away under smooth, even power. They operate with maximum availability. They consume less fuel, thus releasing badly needed cars for other service.

Baldwin diesel and steam locomotives are helping the railroads to haul the greatest tonnage in history. Baldwin tanks, guns and other implements of war are flowing, in ever increasing volume, to our Army and Navy.

THE BALDWIN GROUP

THE
BALDWIN
LOCOMOTIVE WORKS
Philadelphia

NO PRIORITY ON COMFORT IN THESE NEW NEW YORK CENTRAL SYSTEM CARS

Upholstered in a special *Chase Velmo Mohair*, designed by Lurelle Guild, these new lightweight cars provide "extra-fare" comfort for the passengers of the Pacemakers and other New York Central deluxe-coach trains.

Even though you may not be adding new passenger cars for the duration, you can maintain (or improve) the comfort-standard of your equipment by a planned schedule of re-upholstering. With an ample supply of Mohair (recently "unfrozen" by WPB) and necessary looms in reserve, Chase can supply *Velmo Mohair Upholstery* for all essential transportation needs.

Chase facilities and experience, gained by serving America's railroads for 60 years, are yours to command. May we help with swatches, prices, delivery dates and suggestions for a wartime upholstery maintenance program that will help keep post-war passenger revenue at profitable levels?

CHASE VELMO

L. C. CHASE and COMPANY • 295 Fifth Avenue, New York City

Sales Division of Sanford Mills • Offices: Boston, Detroit, Chicago, Los Angeles

Flame-straightening of worn joint bars is done by heating an area on the base of each bar by means of oxy-acetylene flames. The subsequent cooling action raises the center of the bar to a full contact at the fishing surfaces. Through this action, flame-straightening releases the rail ends so that they assume their true surface. Practically the full strength of the joint bar is retained.

OXY-ACETYLENE FLAME-STRAIGHTENING

Saves Steel and Reduces Wear in Equipment

• Oxy-acetylene flame-straightening is being used with excellent results to overcome the sag or "droop" that worn joint bars cause at the rail joints. This procedure not only saves steel, because it prolongs the useful life of joint bars now in track, but also—because it restores rail to a more nearly true surface—greatly reduces wear and tear on locomotives and cars. In addition, when used in connection with a program of building up rail ends by welding, flame-straightening materially reduces the amount of welding—and welding rod—required.

Oxy-acetylene flame-straightening of joint bars was developed many years ago by a leading railroad with the co-operation of Oxweld Railroad Service. The experience of this railroad, and other roads that have adopted flame-straightening—as well as our continuing laboratory investigations into the metallurgical aspects of this development—have provided the data which has enabled the Oxweld organization to establish standard procedures for the method.

Oxweld Railroad Service is thus able to help the railroads use oxy-acetylene flame-straightening most effectively.

THE OXWELD RAILROAD SERVICE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

Carbide and Carbon Building Chicago and New York

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The word "Oxweld" is a registered trade-mark of a Unit of Union Carbide and Carbon Corporation.

HELP FOR THE MAN ON THE MACHINE

Tools for various machining operations, tool shapes, cutting speeds and feeds, cutting compounds, characteristics of the different Aluminum Alloys; all these things are discussed in this new book, "Machining Alcoa Aluminum".

Beginners and experienced machinists will find this book equally valuable. It may contain your key to faster, higher quality production of badly needed war materiel.

Alcoa engineers continue to be available to assist you in solving new and unusual Aluminum fabricating problems. They'll also gladly counsel with you on your postwar thinking. For this help, and for copies of this new book, "Machining Alcoa Aluminum", write ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh, Pa.

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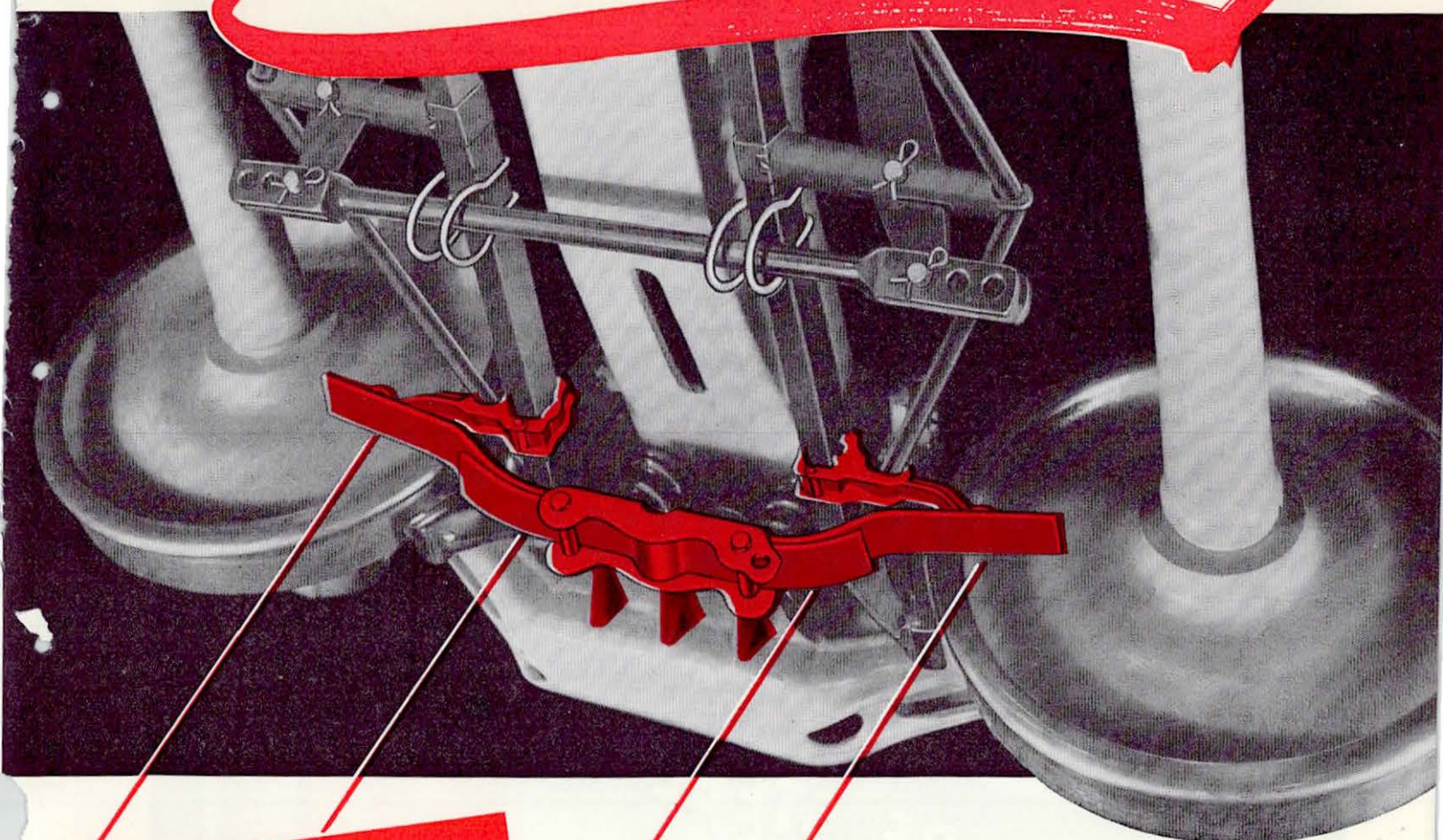
ALCOA ALUMINUM

Cushioned movement reduces wear



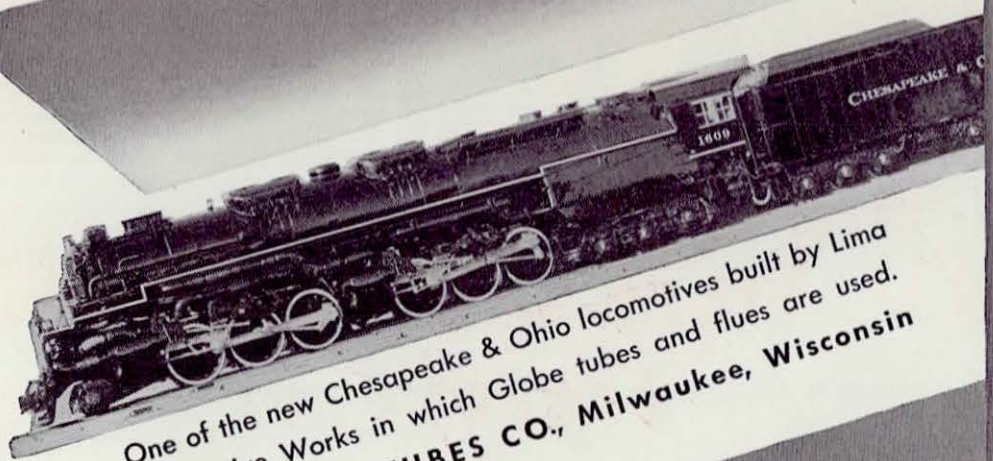
CRECO
Brake Beam
SUPPORTS
lower the cost of brake rigging maintenance

Creco Brake Beam Supports hold brake rigging in alignment . . . brake heads are maintained concentric with the wheel . . . hangers and levers are protected against vibration and wear.

The resilient supporting arms upon which the brake beams ride not only absorb vibration and shock . . . they also prevent the beam from falling.

CHICAGO RAILWAY EQUIPMENT CO.
McCormick Building, Chicago

MODERN LOCOMOTIVES REQUIRE TUBES AND FLUES EQUAL TO MODERN DEMANDS



One of the new Chesapeake & Ohio locomotives built by Lima Locomotive Works in which Globe tubes and flues are used.
GLOBE STEEL TUBES CO., Milwaukee, Wisconsin

GLOBE STEEL TUBES

- BOILER TUBES
- CONDENSER AND HEAT EXCHANGER TUBES
- MECHANICAL TUBING
- STAINLESS TUBES

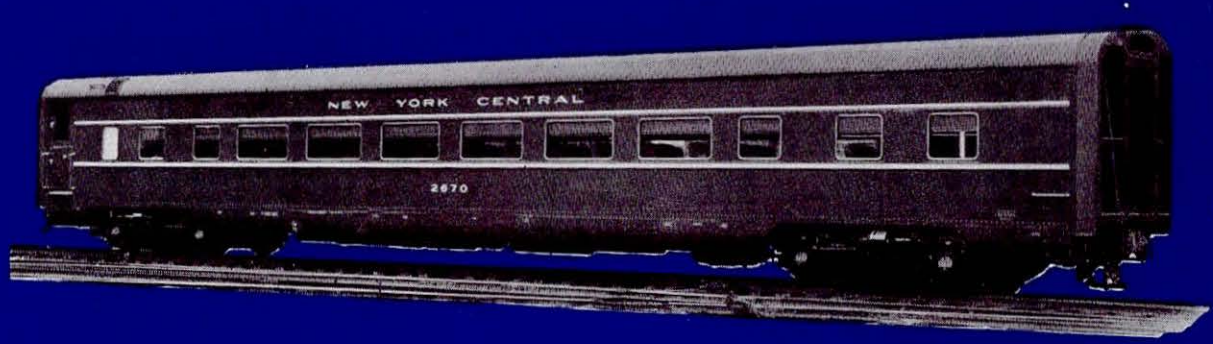
GLOBE TUBES

5001

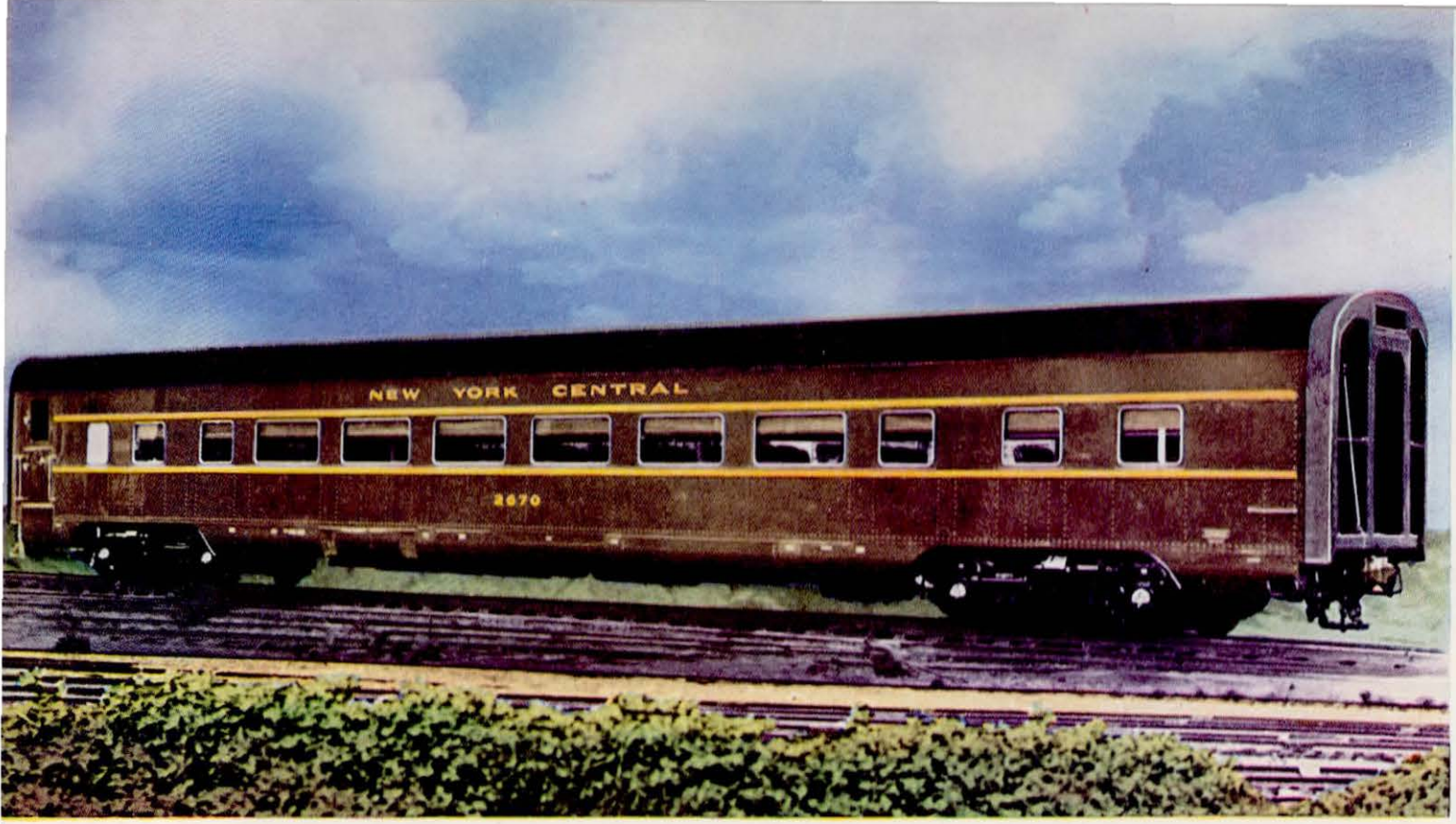
IN WAR

PRESSED STEEL CAR COMPANY, Inc.

PITTSBURGH, PA.



IN PEACE



Rich—Distinctive—Yet Practicable

PRESSED STEEL CAR has again demonstrated its initiative and creative powers when the company developed and built the 25 new deluxe streamlined coaches for the New York Central . . . These cars are an outstanding example of modern construction. The interior combines an unusual degree of luxurious refinements, skilled workmanship, harmonious architecture and color treatment, and interior appointments and conveniences, all adapted to meet the most exacting passenger requirements. Special features include unique mouldings, continuous lighting fixtures, mirrors at all pier panels, solid basket racks with louvers for clear view, gun metal mirrors with full size map of New York Central System at the partition of lounge rooms and glass partitions at the passageway.

PRESSED STEEL CAR designed these cars not merely for public appeal and comfortable easy riding — but special emphasis was placed on safety and resistance to collision. The car body, including all outside sheets, is primarily of Cor-Ten steel. The side frame is of the girder type riveted construction. The ends of cars are equipped with a cast steel platform and center sill casting, welded to the center sills. The welded underframe, embodying the bolsters, crossbearers, and center sills, was specially engineered by PRESSED STEEL CAR for great strength.

The interior decoration and color schemes were developed in collaboration with Lurelle Guild, Industrial Designer, of New York, N. Y.

THESE CARS ARE ANOTHER PRESSED STEEL CAR ACHIEVEMENT

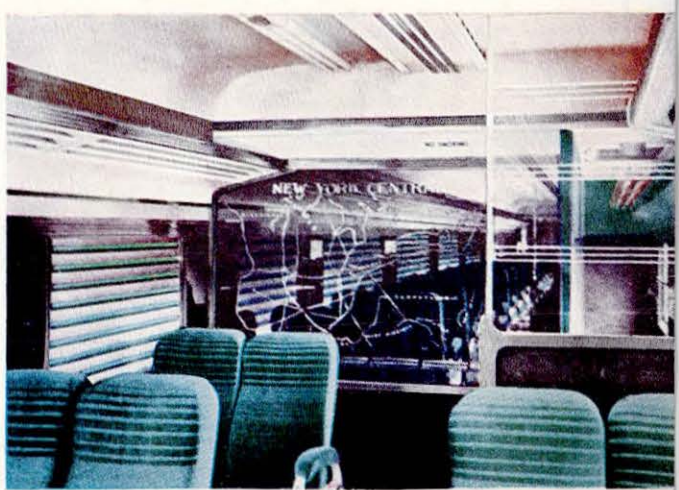
PRESSED STEEL

CAR COMPANY, INC.

PITTSBURGH, PA.

NEW YORK CENTRAL

selects
Pressed Steel Cars
for their Pacemaker
and other important
trains



A distinguished award

CANADA DRY WATER
*spin point carbonation

HUNTER
AN AMERICAN GENTLEMAN'S WHISKEY SINCE 1860

Earned by Every Employee

of Chicago's Only Tank Arsenal

Army-Navy Production Award Conferred on Men and Women of the Hegewisch Plant, Pressed Steel Car Co., Inc.—Now Building a Solid Trainload of M-4 Tanks Every Day

★ ★ ★

"Wear this 'E' emblem with pride. You've earned it!" That's what Uncle Sam tells each of the hard-hitting, patriotic employees of Hegewisch Plant, Pressed Steel Car Company, Inc.

Starting from scratch 20 months ago, Chicago's only tank arsenal to date has met every production task set for it by the Army Ordnance department in the production of M-4 medium American tanks. Its future tank output, to be reached soon, will be twelve times the original quota! Results like these are possible only through TEAMWORK—the loyalty and unstinted service of every worker. Theirs is the honor for a great job that is helping to keep America great.

—and These Pictures Show WHY!

FEB. 20, 1941. "Ghost Plant" of the Pressed Steel Car Co., Inc., at Hegewisch, Chicago, which had been scheduled for two years. No roof, no floor, no machinery.

APRIL 9, 1941. Plant completely re-roofed, new cement floor laid, batteries of machine tools being installed—as Chicago's only tank arsenal.

JULY 15, 1941. The first tank produced by employees of the Pressed Steel Car Co., Inc., Hegewisch Plant rolls off the production line and passes every test.

TODAY at Chicago's only tank arsenal—only plant in Illinois delivering tanks—the employees of Pressed Steel Car Co., Inc., build a trainload of tanks every day!

PRESSED STEEL CAR COMPANY, Inc.

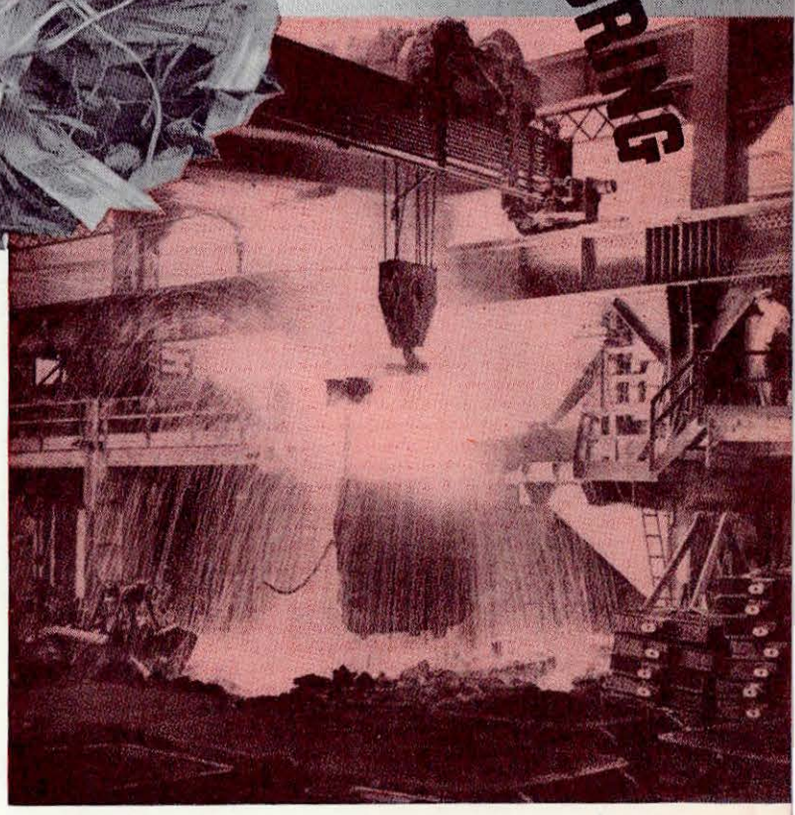
HEGEWISCH PLANT — ARMORED TANK DIV.

ARMY E NAVY

PRESSED STEEL CAR COMPANY, INCORPORATED

SCRAP

WILL KEEP THEM POURING



The steel industry must have scrap . . . over 140,000 tons per day . . . a half ton for every ton of new steel produced.

The railroads with their far-flung properties are an important source of scrap and they have already set well organized scrap drives in motion.

Much scrap has been discovered . . . but not enough . . . not nearly enough. Scrap must keep coming if the furnaces are to keep on pouring.

Scrap
is another major war contribution being made by the railroads

AMERICAN STEEL FOUNDRIES
Chicago

Keep 'em Moving with SAFETY

The new streamlined passenger cars recently placed in service by the New York Central Railroad, are equipped with A.A.R. Tight Lock couplers manufactured by National.

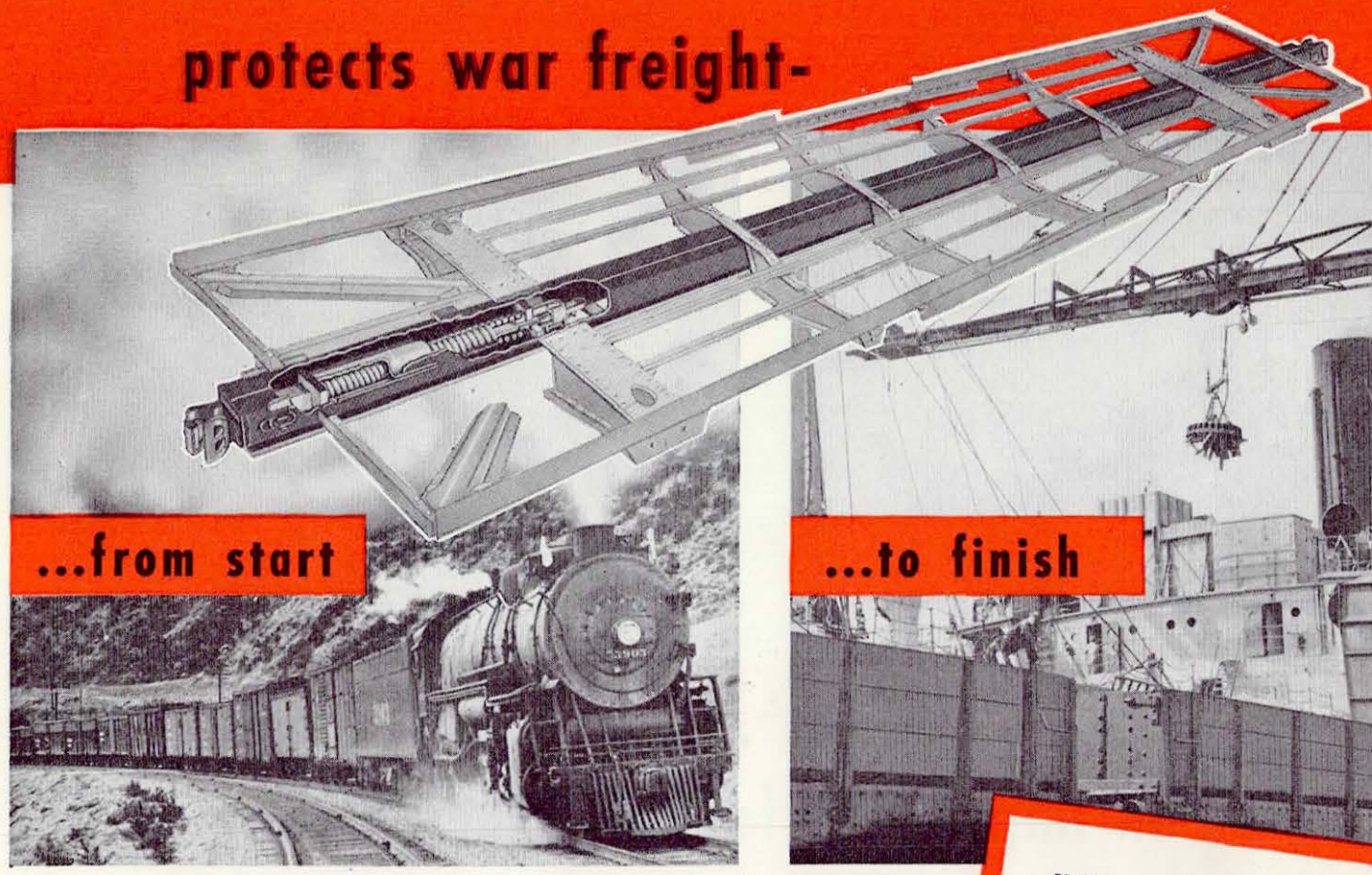
A. A. R. TIGHT LOCK COUPLERS

Eliminate slack in coupler contour
Eliminate noise caused by coupler slack
Anti-climbing feature prevents telescoping
Are self compensating for wear and seating of parts
Meet all A.A.R. specifications for new passenger cars.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

DURYEA *Cushion* UNDERFRAME

protects war freight-



Anywhere along the line, from loading platform to dockside, vital war shipments may get smacked. Heavier loads and faster schedules intensify the danger of damage to contents.

Fortunate is the shipper whose output travels via the Duryea-Cushioned Car. Floating the car body through each wallop, Duryea Gear gives 100% protection from shock.

Duryea...The Modern Safeguard

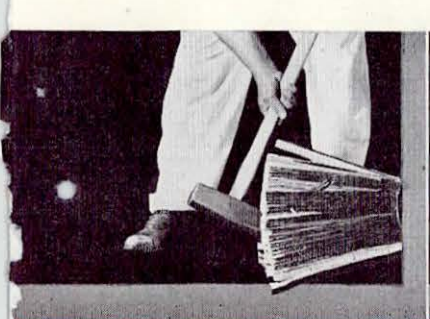
When unrestricted replacement of obsolete and worn-out cars is resumed, watch the swing to Duryea. This modern shockproof safeguard will be preferred by every railroad man and shipper who has seen how Duryea saves packing costs, maintenance, time and lading in war service! Plan for the future—investigate Duryea now.

Write for illustrated booklet

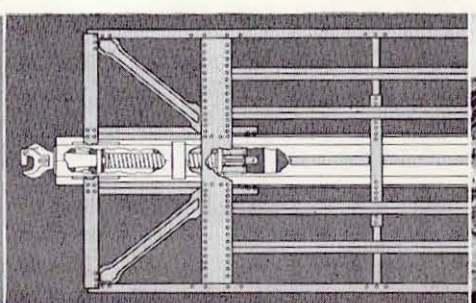
O. C. DURYEA CORPORATION
30 Rockefeller Plaza, New York, N.Y.
Field Building, Chicago, Ill.

HOW DURYEA CUSHIONING MEETS WAR NEEDS

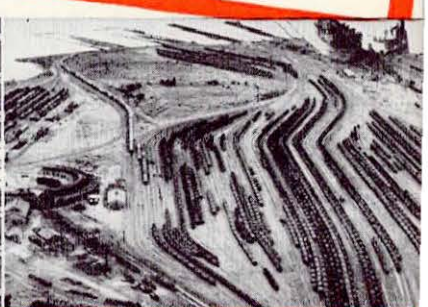
1. Requires less packing and bracing, speeds up car loading and unloading.
2. Gives shockproof protection to vital war shipments.
3. Permits faster handling, higher speeds—Duryea-Cushioned Cars can "take it."
4. Avoids delays and tie-ups due to draft gear failure.
5. Reduces maintenance cost and time on every part of the car.
6. Reduces slack to pre-determined ideal. (Excessive slack is one big cause of damage in today's long, heavily loaded trains.)
7. Reduces cast steel required as compared with conventional friction draft gear underframe and draft gear replacements.
8. Keeps cars off the cripple track—keeps 'em rolling!



HOW DURYEA CUSHIONING lessens shock. Left: block of wood (sill) against wall will splinter when hit with sledge. Right: With spring allowing block (sill) to slide, the hardest blows won't cause damage.



PHANTOM VIEW shows floating center sills, huge springs that lessen blows. Duryea Cushion Gear lasts for life of car.



MR. RAILROAD OFFICIAL! Duryea Underframe can be supplied by any car builder—pays for itself quickly!

DURYEA *Cushion* UNDERFRAME FOR FREIGHT CARS

THE MODERN SAFEGUARD FOR SHOCKPROOF SHIPPING

TIMKEN BEARINGS

an important factor in increasing speeds of freight trains . . .

When freight trains are Timken Bearing Equipped, all speed limitations will be removed as far as bearings are concerned; freight trains will operate at the same high speeds as modern passenger trains. And that will make possible "one-speed" railroading with infinitely improved service for all concerned.

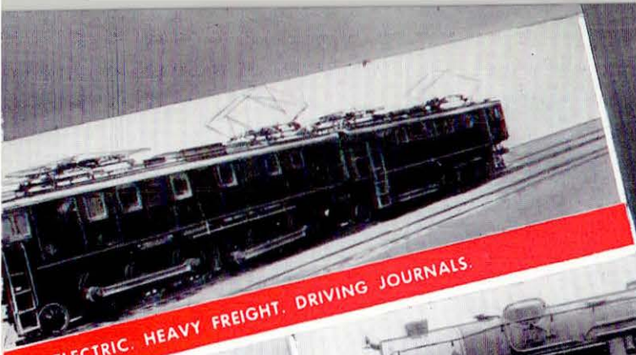
Timken Bearings have already demonstrated that they can reduce starting resistance of individual cars 88 per cent; cut maintenance costs; increase life of equipment; eliminate hot-box delays; improve fuel economy; increase hauling capacity; make possible fast, on-time schedules; reduce claims for damage to lading; greatly reduce in-shop-for-repair time.

Timken Bearings will do the same outstanding job on freight cars that they are doing on modern passenger trains and high-speed locomotives.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

PARTICIPATE IN AN EARLIER VICTORY

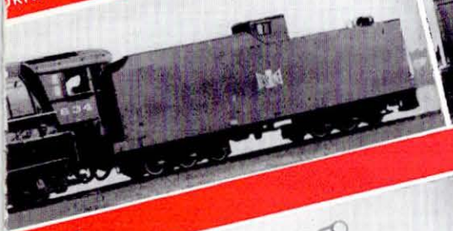
Buy War Bonds. Eliminate Unnecessary Travel — and Travel Light. Salvage All Scrap and Waste Material. Use the Telephone Only When Important. Conserve Rubber.



-8-2. ELECTRIC. HEAVY FREIGHT. DRIVING JOURNALS.

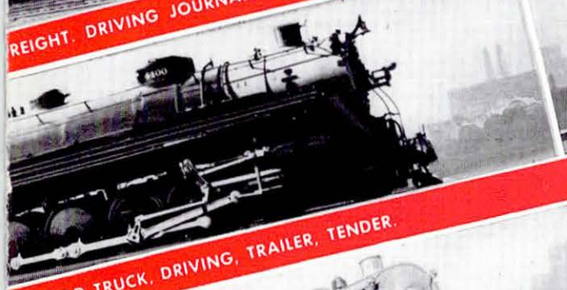
, DRIVING, TRAILER, TENDER.

URNALS.



OURNALS.

REIGHT. DRIVING JOURNALS.

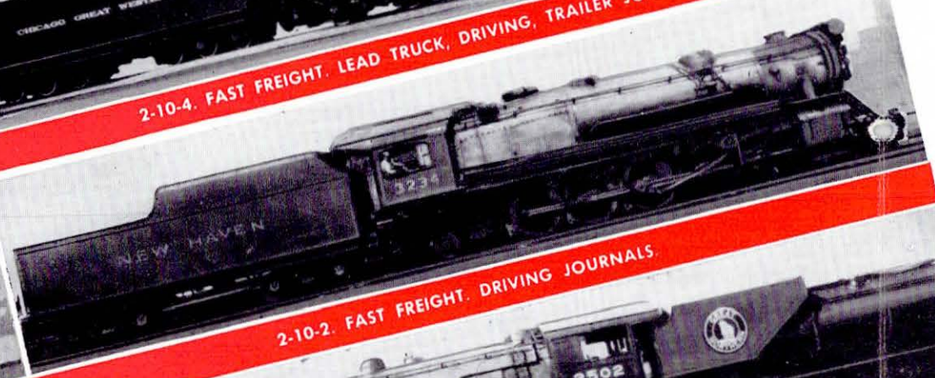


LS; LEAD TRUCK, DRIVING, TRAILER, TENDER.

2-8-0. HEAVY FREIGHT LEAD TRUCK, DRIVING TENDER JOURNALS.

4-8-2. FAST PASSENGER. LEAD TRUCK, DRIVING JOURNALS.

2-10-4. FAST FREIGHT. LEAD TRUCK, DRIVING, TRAILER JOURNALS.

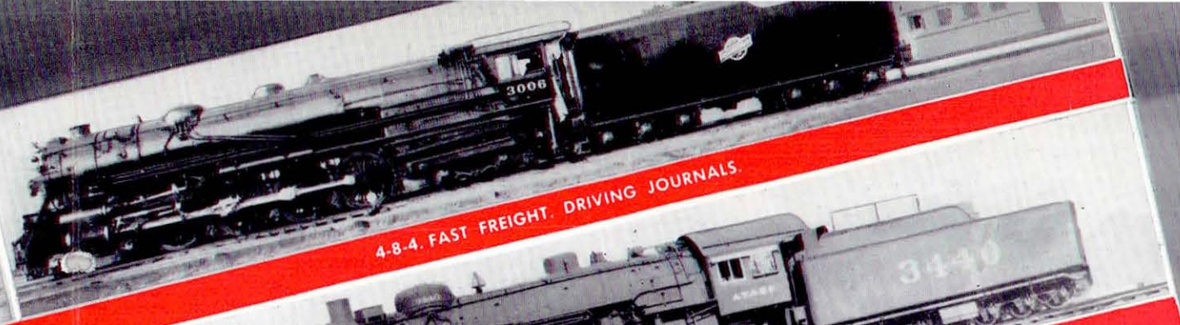


2-10-2. FAST FREIGHT. DRIVING JOURNALS.

4-8-2 FAST PASSENGER. LEAD TRUCK, DRIVING, TRAILER JOURNALS.

4-6-2. FAST PASSENGER LEAD TRUCK. DRIVING. TRAILER JOURNALS.

2-8-8-2. HEAVY FREIGHT. LEAD TRUCK, DRIVING, TRAILER JOURNALS.



4-8-4. FAST FREIGHT. DRIVING JOURNALS.

4-6-2. FAST PASSENGER. LEAD TRUCK, DRIVING, TRAILER JOURNALS.

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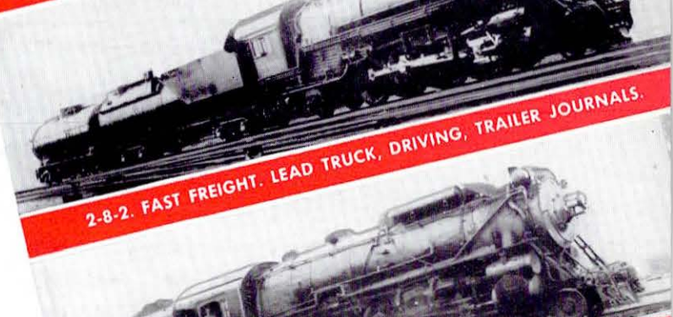


2-8-2. FAST FREIGHT. LEAD TRUCK, DRIVING, TRAILER JOURNALS.

4-6-2. FAST PASSENGER. DRIVING JOURNALS.

2-8-2. FAST FREIGHT. DRIVING JOURNALS.

4-8-2. FAST PASSENGER-ALL JOURNALS; LEAD TRUCK, DRIVING, TRAILER, TENDER.

WAR-TIME restrictions on critical materials have radically changed bearing-metals. Adequate OIL-lubrication . . . and ONLY adequate OIL-lubrication . . . can deliver the complete protection against wear today's conditions demand.

When journals revolve in a Bath of OIL . . . bearings and axles rarely, if ever, need replacement. Motive power stays on the road . . . instead of losing weeks in the shop. Even the cost of lubricant goes down to a third, or less. And all the intangible benefits of cooler-running . . . add to the ton-mileage of locomotives with adequate OIL-lubricated journals.

HENNESSY LUBRICATOR CO.
75 West St., New York

See previous advertisements in Railway Age for October 17, September 19, August 8.

On the latest type heavy-duty locomotives . . .
(like the Frisco's new "4500"s in dual freight—passenger service)

. . . and on seasoned old veterans
(like the New Haven's Pacific-type and the Norfolk & Western Electrics)

. . . on all types of motive power . . . in all classes of service . . . on 20 trunk-line roads . . .

4600 Hennessy driving-journal lubricators pile up the evidence daily, that

OIL-Lubrication

- increases availability
- releases maximum ton-mileage
- lowers operating costs

Hennessy Lubricator Co., 75 West St., New York
Mechanical OIL-Lubricators for ALL journals of railway equipment

Wherever driving-journals *turn* . . .

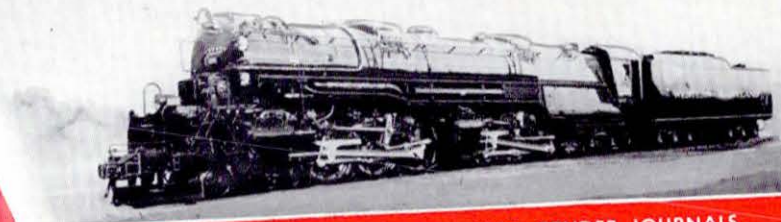
they turn
COOLER.
FASTER.
SMOOTHER.

← HERE'S THE EVIDENCE!

Typical Locomotives with driving and other journals lubricated by

FENNESSY LUBRICATOR

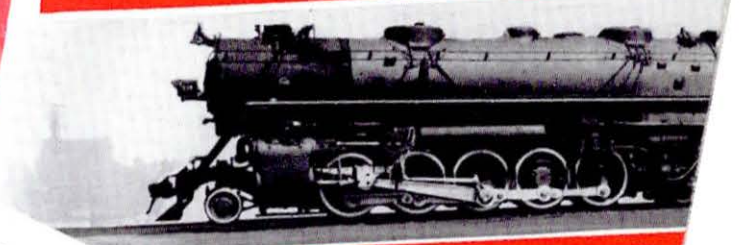
2-10-0. HEAVY FREIGHT. LEAD TRUCK, DRIVING, TENDER JOURNALS.



4-6-6-4. FAST FREIGHT. DRIVING, TRAILER, TENDER JOURNALS.

4-8-4. DUAL FAST PASSENGER-FREIGHT. ALL JOURNALS: LEAD

2-8-8-0. FAST FREIGHT. DRIVING JO



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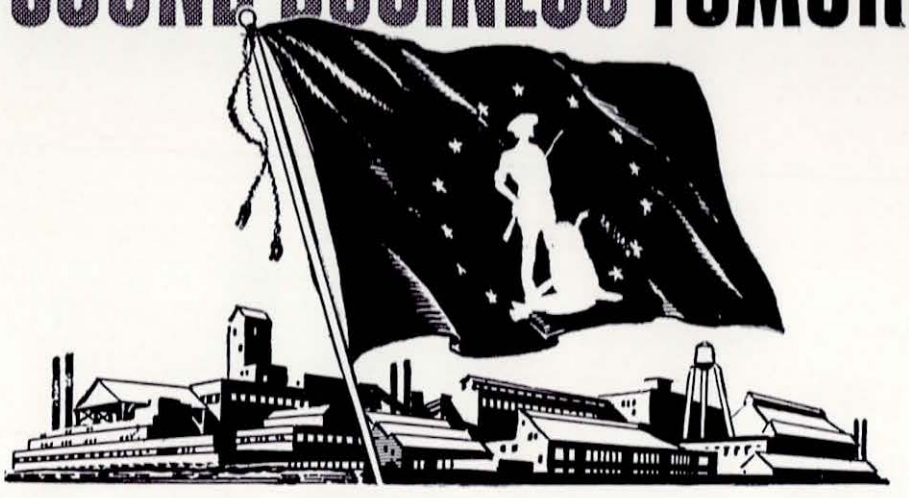
2-10-2. FAST

2-8-2. FAST FREIGHT. ALL JOURN

FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW



Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business.* It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Payroll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

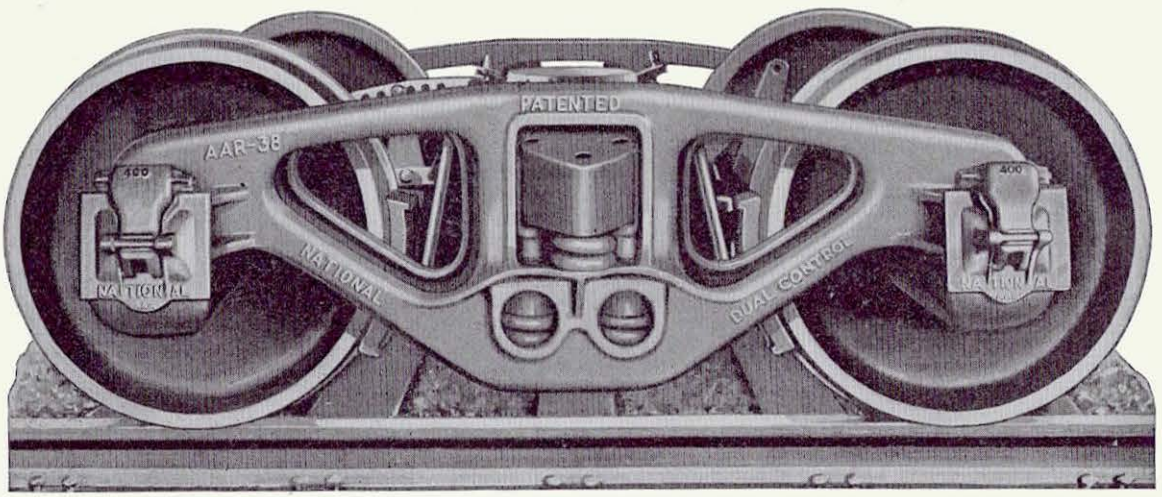
Save With

War Savings Bonds

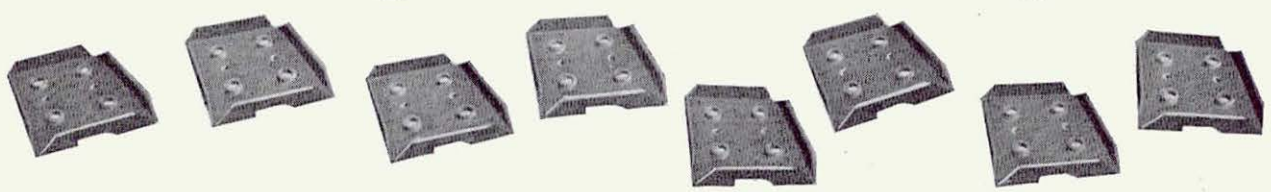
This Space Is a Contribution to America's All-Out War Program by

RAILWAY AGE

NATIONAL B-1 TRUCKS
with
DUAL CONTROL



Save Weight, Time and Expense



A. A. R. Standard Springs used in National B-1 Trucks are held firmly in position in the side frame, and the Eight spring retaining plates (illustrated above) used in other types of trucks are eliminated.

Two Spring Planks per car are also eliminated—At least 500 lbs. of vital steel per car are saved by elimination of the items shown.

Built-in Friction Controls make the usual snubbers unnecessary.

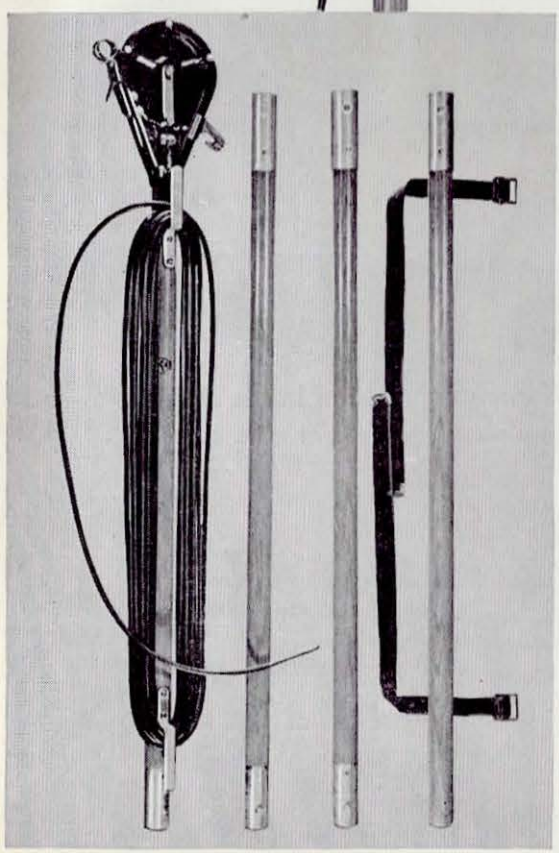
They meet all A.A.R. requirements.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: RAILWAY AND POWER ENGINEERING CORPORATION, LTD., *Toronto and Montreal*

Introducing the
UNIVERSAL LINE POLE

A War Time Saver for making connections quickly and easily to overhead open-wire lines . . .



This new "Universal" Line Pole represents one of the greatest advances ever made in line pole design. Here are some of its outstanding advantages:

ADAPTABLE: Easily connected to any pair of wires of spacing up to 33 inches, either on crossarm or on brackets mounted on different planes.

COMPACT: Comes in four 36-inch sections, quickly expanded into 12-foot unit. (Additional sections available.)

PORTABLE: Bottom section has heavy web straps for lashing sections together.

RUGGED: Metallic moving parts corrosion-proof or treated to resist corrosion. Sections formed of two half-round strips of cross-grain wood cemented together for exceptional strength.

CONVENIENT: Top section equipped with 45-foot rubber-covered cord. Free end has spade terminals for connection to portable telephone or test set.

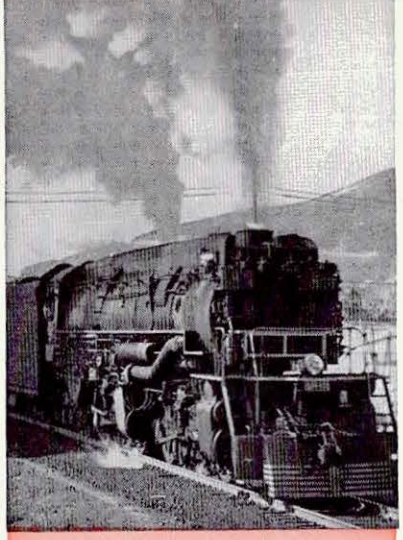
NOISELESS CONTACTS: Line connectors brush through surface corrosion on line wires to insure firm, low-resistance connections.

The price of this improved line pole makes it an especially worthwhile value. A sturdy canvas carrying case can be supplied at small extra cost. Write at once for full information.

AUTOMATIC ELECTRIC

MAKERS OF TELEPHONE, SIGNALING AND COMMUNICATION APPARATUS
ELECTRICAL ENGINEERS, DESIGNERS AND CONSULTANTS

Distributors: AMERICAN AUTOMATIC ELECTRIC SALES COMPANY, 1033 W. Van Buren St., Chicago, Illinois
In Canada: Canadian Telephones & Supplies Limited, Toronto. Sales and Service Offices in Principal Cities.



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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

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How a 27-mile section of single track connecting two double track stretches on the Missouri Pacific had its war-traffic performance expedited by the installation of centralized traffic control.

Pressed Steel Delivers Coaches to the New York Central ***729***

An illustrated article giving details on the interior decorations and construction of the 25 passenger coaches recently placed in service by this road.

Private versus Federal Control ***738***

An objective analysis, by Paul Waldo Seiler, Jr., of conditions leading to federal control in the last war and of the causes for present superior railroad performance.

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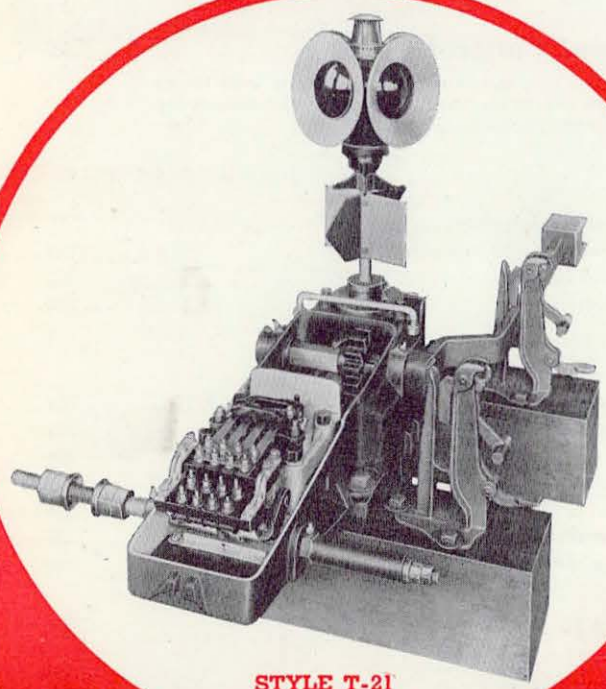
The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

PRINTED IN U. S. A.

FACING POINT LOCK PROTECTION AT HAND-OPERATED SWITCHES

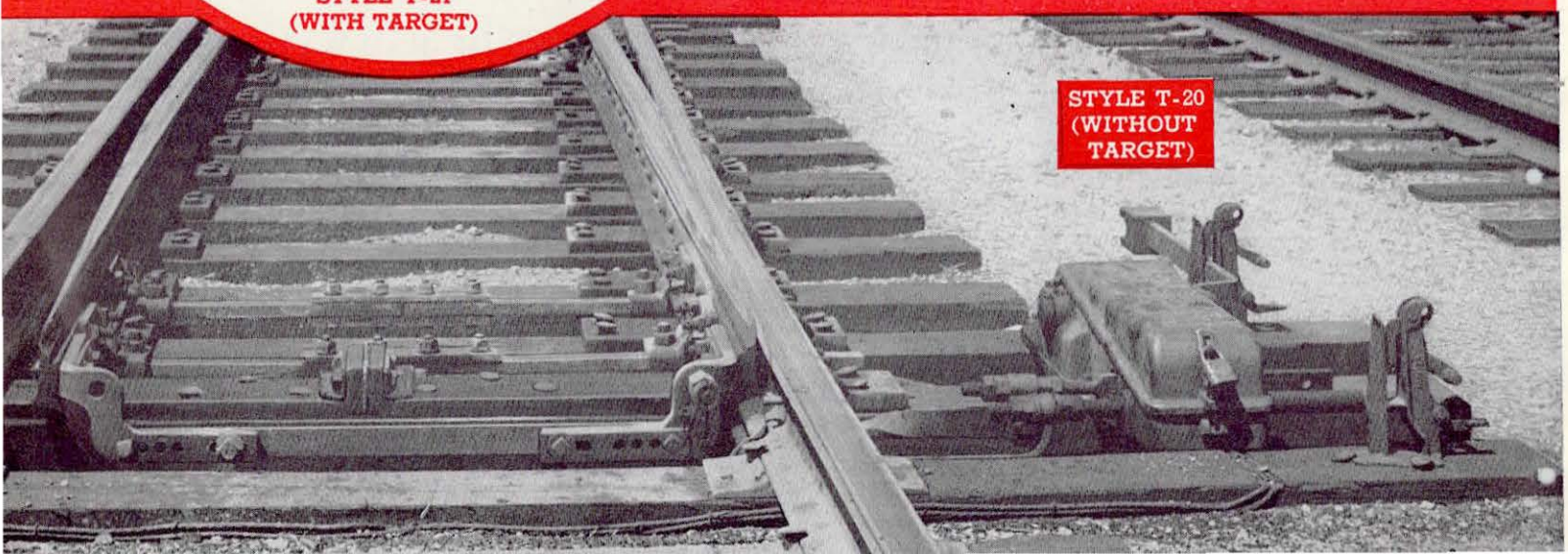
PROTECTION equivalent to that provided at interlocked switches is obtained with the "Union" T-20 and T-21 Hand-Operated Switch Stands. In automatic signal territory the initial reversing movement of the throw lever places the signals at stop *before* the switch points are unlocked. When the switch is restored to normal, a circuit controller checks that the switch points are mechanically locked by a separate lock rod before the signals can clear. • These stands provide normal lock protection, detect the position of the switch points independently of the lock rod and lock the operating rod in both the normal and the reverse position. The T-20 and T-21 are identical except that the T-21 is supplied with a target. Both types are universal in application, rugged, easy to operate and ideally suited for electric locking. • These switch stands offer a modern solution to an old problem.



STYLE T-21
(WITH TARGET)

2016

UNION SWITCH & SIGNAL CO.
SWISSVALE, PA.
NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO



STYLE T-20
(WITHOUT
TARGET)

The Week at a Glance

WHAT IS "ENTERPRISE"?: Some business leaders appear not even yet to understand that there is no respectable theoretical principle to justify the kind of private monopoly which developed, to the bursting point, in this country in the 'Twenties. The American people are not socialists (at least, very few of them are) —but, if they have got to do business with monopolies, they will expect these to be government - regulated or government-owned. No free people will forever tolerate being *dictated to,* as to prices and services, by private monopolists, controlled only by their consciences. The leading editorial analyzes the outlook for the restoration of free enterprise in this country and concludes that the outcome depends largely or entirely on the willingness of private enterprise to obey the laws of its own being.

●

HITLER'S FOLLY—WE HOPE: A popular theme for public comment, these days, is how Herr Hitler neglected his railroads—and how now he has a decrepit and entirely inadequate transportation machine to keep his war going. Figures cited in an editorial herein reveal that, in the 'Thirties, the German railways' locomotive supply declined 10 per cent and their freight car supply 6 per cent—at the same time that the locomotive supply in this country declined 24 per cent and the freight car supply 25 per cent. Moreover, since the war began, the German equipment program has, relatively speaking, been far more generous than that currently permitted in this country. The editorial concludes with the hope that Hitler's railroads are as decrepit as is reported—but it suggests that some of the popular curiosity directed toward German transport might be profitably expended at home. What, for instance, is *our* government doing to avoid the identical error Hitler is supposed to have made?

●

SOLDIERS' GOOD-WILL: Not all the service men are satisfied with the treatment they are getting from the railroads—in spite of the fact that their official travel is in Pullmans and their furlough rides are at bargain rates, instituted voluntarily by the railroads. The trouble is not basic and it is not general—as an editorial herein views it. *Lack of consideration* in a few places (no information about necessary delays, for one thing) appears to be the principal difficulty. The editorial points out why it is that the whole railroad industry gets blamed for what may be the carelessness of a minute fraction of employees—and suggests the importance of correcting *all causes* of complaint. This industry and its employees will need the good-will of these service men too much in days to come to let it slip away through misunderstandings over trifles.

●

25 MORE NYC COACHES: The New York Central has recently placed in service the final installment of 95 coaches it ordered last year—the most-recent increment differing in construction and decoration from the others. They are described and pictured herein. Blue-green, double-rotating, reclining seats, cushioned with foam rubber, are but one of the attractive features provided for customers who ride for 2.2 cents a mile (plus 10 per cent toward war expenses). Provisions for comfort, safety and modern mechanical design put the vehicles high on the list of outstanding examples of the designers' and builders' art.

●

TO DECELERATE SERVICE: The ODT evidently leans to the slow service school of thought, and for some time has been putting pressure on the railroads for a general lengthening of schedules of both freight and passenger trains. Extended conferences have been held, and, in at least some instances, the ODT position appears to have been sustained. The situation is reviewed in the news pages herein. Deceleration of passenger schedules, in many cases, is justified by the fact that, with present traffic, trains cannot deliver on-time performance anyhow. The chief consideration in the slow-down, however, appears to be the desire to conserve engines, by reducing helper service. On the other hand, those who lack enthusiasm for slow service point out that you don't maximize the output of equipment by taking the speed out of it.

●

DELAYING WAR TRAFFIC: 38 trains every day are delayed a total of 22 hours by accidents at highway crossings. Most of these trains, of course, contain vital war traffic. In addition, more often than once every 48 hours a train is derailed by a highway crossing accident—thus not only decelerating war traffic, but running the risk of destroying it as well. Of course, the same is true of every railroad accident—not only those at grade crossings. The Railroad Section of the National Safety Council went into the tactics of the "accident prevention front" at its last week's meeting, reported herein. Every railroad man is a soldier in this campaign—and news of how it is going (and how it can be made to go better) is as proper a concern of railroaders as are dispatches from the Solomons to the Navy department or from Egypt to the Army.

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CAR NEED UNDERSTATED: The 900 locomotives and 80,000 freight cars the railroads have asked for from WPB is an unduly conservative statement of railroad requirements, in the opinion of Ralph Budd and H. A. Scandrett, as revealed in the news pages herein. These authorities contend that the carriers should have not less than 1,000 new locomotives, 100,000 freight cars and 2,000,000 tons of rail to cope with the demands for continued efficient service in the coming year. Shippers' organizations are interesting themselves in the situation, with support for the position of the ODT and the carriers. Opinion, in short, is unanimous among those whose professional experience gives them competence to judge transportation requirements, and the tools necessary to meet them. Disagreement with this view obtains in quite another quarter.

WHY FEDERAL CONTROL?: In 1917 federal control was instituted in order to secure a better distribution of a limited car supply. This expedient achieved no very impressive results in this direction —but anyhow, in 1917, there was room for some improvement in co-operation among carriers, shippers and government officials; and governmental coercion was one way, however faulty, of trying to get better collaboration. But, how about now? Is there any aspect of co-operative effort that coercion through federal control would achieve that hasn't been accomplished already? On the contrary—such coercion might reasonably be expected to *destroy much of the extremely effective collaboration,* built up step by step since the last war.

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AN OBJECTIVE APPRAISAL: The above paragraph is no editorial statement of ours—it is a summary of conclusions implicit in an analysis of the present situation of railroad control by an independent student published elsewhere in these pages under the heading "Private vs. Federal Control." Your observer seems, in the author's appraisal, to detect an undertone of question about only one aspect of present co-operation. The railroads are co-operating. The shippers likewise. Also government officials who use transportation. As for government officials who must be looked to for the necessary materials . . . . Anyhow, there is an enormous amount of harm to transportation efficiency which federal control could, and doubtless would, do; and no good whatsoever.

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RECEIPTS OF MATERIALS: In August the Class I railroads received just short of 103 million dollars worth of materials and fuel, a slight increase over July; details in a short article herein.

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WHAT CMP MEANS: "Controlled Materials Plan" is the latest WPB scheme for allocating materials which, says Donald Nelson, will *"insure the railroads in getting their proper share of materials essential to do their job."* The new control method is described as a "vertical allotment"—which considers the finished product and then assigns the needed materials *at the time needed* in the production schedule. The innovation, it is noted, continues to class the railroads as a "civilian" user. Also—as the process is described in the news pages herein—it is not revealed how, despite what is claimed for it, the plan could rectify such an error as assigning the carriers too few "end-products" (i. e., cars, locomotives, rails) at the outset.

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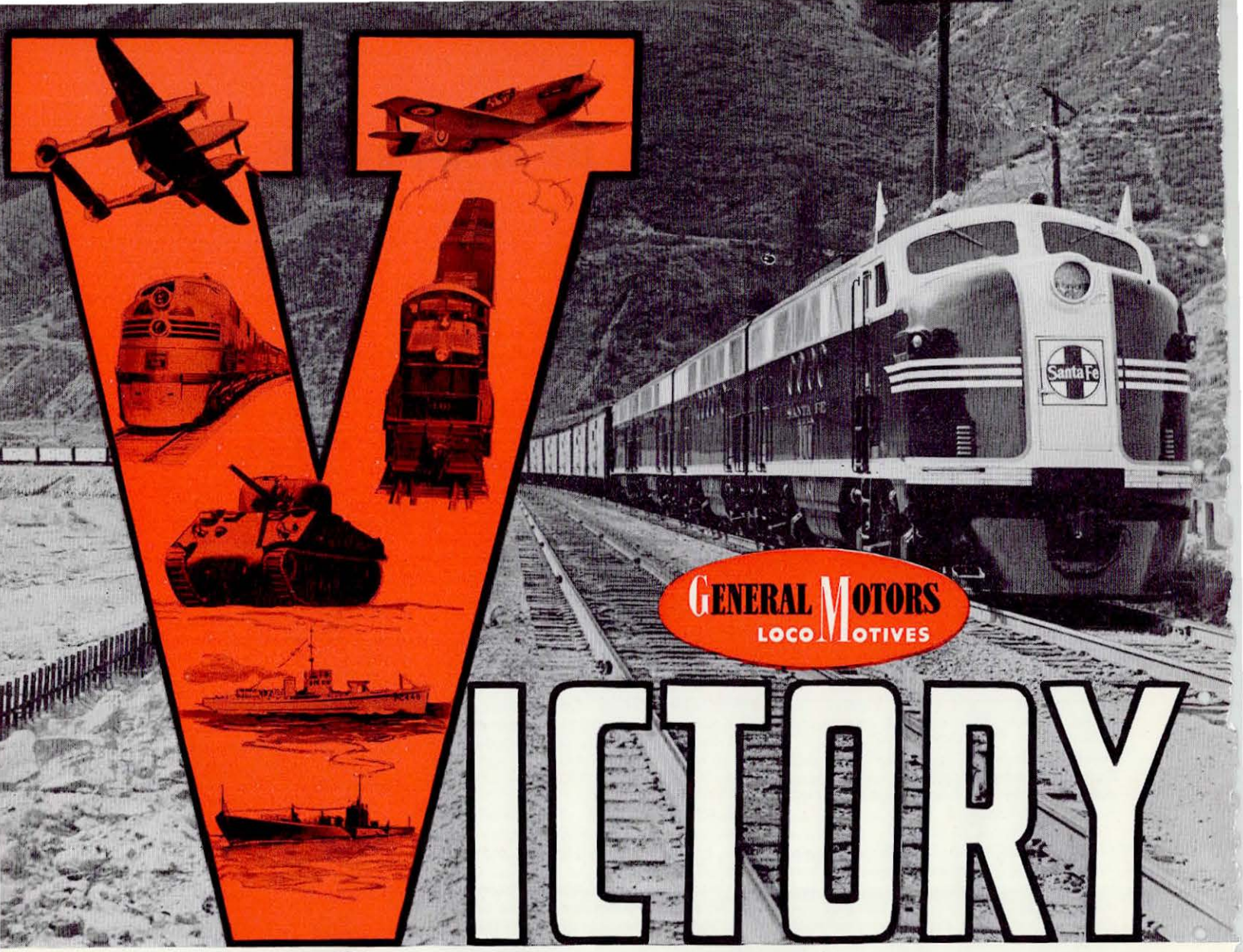
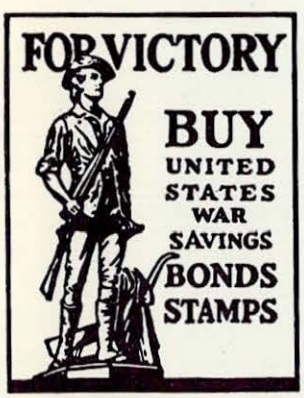
BUSY SINGLE TRACK: Dupo yard on the Missouri Pacific handled 2,749 cars a day in 1941—now it is dealing with nearer 7,000, which gives a general idea of what is happening on the Illinois division of this road. Most of this 112 miles is double-tracked, but there are two stretches of single track—which are getting 70 trains a day, and occasionally even more. How the Mo. P. is doing this job of railroading is described herein.



Is Our Business

WITH our armed forces now engaged on all fronts, each and every one of us here at home must produce more—if needs be, sacrifice more—to support our boys, if VICTORY is to be ours.

All of the 104 General Motors plants and operating units in the United States and the five General Motors plants in Canada, with close to 350,000 men and women employees . . . GM suppliers and subcontractors, with more than 300,000 employees—are dedicated to producing an ever-increasing volume of fighting tools, equipment and supplies to "Keep 'em Rolling"—"Keep 'em Flying"—"Keep 'em Fighting." And on the transportation front, more than 1100 General Motors Diesel Locomotive Units now in switching, transfer and road service on 80 American railroads, in heavy industries, war production plants, et cetera, are providing fast, efficient and dependable TRANSPORTATION which is so vital to VICTORY.



THE AMERICAN WAY WILL WIN

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION LA GRANGE, ILLINOIS, U.S.A.

RAILWAY AGE

Efficiency FOR VICTORY

What Kind of Private Enterprise?

The following statements were made by the Standard Oil Company of New Jersey in a recent issue of its monthly publication, "Lamp": After the war "the (oil) industry must return to its traditional competitive set-up . . . There are those who have advocated . . . socialization of industry, not merely for the duration, but as a permanent part of our national economy . . . One reason why monopolies are not truly efficient is because they lack the incentive supplied by competition to lower prices and improve products and services. . . . A government monopoly is the least efficient of any, because, . . . it does not need to show a profit."

These statements from such an important source are welcome because reasons have been afforded by American business for doubting whether during the last quarter of a century it has believed in *real* competition within naturally competitive industries, or understands that such competition after this war will be essential to the salvation of private enterprise. There are too many business men who have ability enough to make profits temporarily, but not wisdom enough to study the *political* and *economic* trends which will determine whether in the long run anybody will be allowed to make profits.

The post-war issue *already squarely posed* is socialization and totalitarianism versus free competitive private enterprise. And free competitive private enterprise is enterprise that (1) receives no subsidies from government; (2) is subjected to no subsidized competition by government; (3) if naturally monopolistic, is strictly regulated by government; (4) if naturally competitive, resorts to no practices to restrict competition.

It is but too widely known that between World War I and World War II there was a reduction by business as well as government in free private enterprise as thus defined. Business adopted practices for restricting competition—such as for "stabilizing" prices, a euphemism for agreeing on them. What kind of "free" enterprise is it under which either sellers or buyers combine to *dictate* prices? However private it may be, enterprise is not "free" for those who have prices thus *dictated to them.* Some private enterprise has fought and still fights for government subsidization of carriers by water, highway and air, causing *socialized* competition with the railways which is unsound measured by any accepted standard of private enterprise, and obviously tending toward socialization of all transportation.

Numerous large companies, some selling to railways, are reducing advertising addressed to their customers and increasing it in publications of general circulation to present the advantages of private enterprise to the public. In doing so, are they sufficiently considering that most of the public, by supporting the New Dealers, has been showing dissatisfaction with the *kind* of private enterprise we had in the Twenties, followed by what we had in 1930, 1931 and 1932? Many business leaders apparently need warning that they cannot sell private enterprise to enough people unless they admit there were some important evil pre-war business practices and policies, and give convincing evidence that these practices and policies will be voluntarily abandoned in the post-war period.

If most of the public is allowed to believe that it has no alternative but government enterprise or private *monopoly* enterprise, no amount of propaganda, however skillful, will influence it to prefer the latter.

Hitler's Achilles Heel—Or, Perhaps, Our Own?

There is in popular discussion more disposition to exult over Hitler's alleged failure adequately to maintain his railroads than zeal to promote avoidance of the same mistake in this country.

Before the war in Europe, the experience of the German Railroads had been similar to that of United States railroads. They had suffered from loss of traffic to competitors enjoying more governmental favor.

Their new rolling stock had been greatly curtailed, and their maintenance expenditures reduced. But there had been enough operating efficiency in large measure to overcome these handicaps.*

From 1929 to 1938 ownership of steam locomotives by the German Railroads (there were few of other kinds) declined from 23,698 to 21,278—or 10 per cent. In the same period locomotive ownership by the railroads of the United States declined from 57,571 to 43,810—or 24 per cent. Railroad ownership of freight cars in Germany declined from 660,748 in 1929 to 617,979 in 1938, or 6 per cent. In the United States freight car ownership by Class I railroads declined 25 per cent, from 2,306,804 to 1,721,998. By 1938, however, car and locomotive ownership by the German Railroads was on the increase—the reverse of the downward trend which prevailed in the United States until 1940 in the case of freight cars, and until 1941 in the case of locomotives.

The individual efforts of hundreds of railroads, aided by shippers' organizations, in a country of private enterprise such as the United States might be expected to perform more "miracles" in increasing utilization of facilities than the efforts of a transportation bureaucracy such as the German Reichbahn. Nevertheless, the German Railroads have not been insulated from improved efficiency. In 1937 and 1938 they hauled both more tons and more ton-miles than in 1929 with fewer cars and locomotives.

Furthermore, in 1939, a "four-year program" of rolling stock acquisition was launched in Germany, calling for the annual construction of 1,500 locomotives, 2,500 passenger cars and 28,000 freight cars. This was equivalent—translated into proportionate figures for the much larger United States system of railroads—to the yearly construction in this country of 3,000 locomotives, 78,000 freight cars, and a number of passenger cars difficult to determine, but certainly more than 1,000. The railroads of the United States, under continued depressed conditions, acquired nowhere near this much equipment; and yet the War Production Board is unwilling to permit them during the next year to acquire 900 locomotives and 80,000 freight cars, and long since interdicted all construction of passenger cars—although between July, 1940, and July, 1942, railway freight traffic in this country increased 83 per cent and passenger traffic 112 per cent.

We hope that Herr Hitler's railroads are in the bad shape that the popular reporters proclaim. But those who are exulting over Hitler's shortsightedness in dealing with his basic transportation might be more profitably engaged in examining critically how much foresight, comparatively, *our* government is showing in dealing with *our* transportation problem.

* See Journal of the Institute of Transport (Great Britain), April, 1942, page 428.

Fire—a Friend of the Enemy

Fire is an enemy on the home front, and unless kept under rigid control may imperil the nation's war effort. Not only must we continue to contend with fires originating largely from carelessness, the nation-wide losses of which ordinarily involve some 10,000 lives and $300,000,000 of property annually, but we must now also protect ourselves from arson due to war sabotage.

Fires in the home, on the farm and on industrial property not only involve loss of lives and of essential military and civil supplies, but deal a blow to the morale of the people. Conversely, good housekeeping, preventative measures and adequate fire fighting equipment will insure the protection of war production.

Railroad men understand the importance of eliminating fire hazards better than most persons because the railroads' responsibility for property is greater than that of other industries. Most railroads do not rely upon insurance companies for monetary protection against loss, as do most industries, but carry their own insurance. In addition, railroads under the Transportation Act are responsible for the property of others while it is en route, whereas only a few other industries are custodians of the property of others. Under these conditions, railroads are more cognizant of the fact that the surest way to avoid fires is to eliminate hazards.

Yet, in spite of constant vigilance, fires do occur, and their frequency testifies to the need for added precautions during the war. The significance of fires to the railroads is demonstrated by the fact that an average of 6,663 fires, and losses averaging $5,979,307, occurred annually from 1919 to 1940. In 1941 the trend turned upward, with a loss of $7,457,758, the highest since 1924. This trend has been accelerated in 1942, coincident with the hiring of many employees who are not as fire-prevention-minded as more experienced personnel.

The causes of fires, most of which involve carelessness, can be controlled. Laws regimenting minor conduct have never been enforceable in this country because they have lacked popular support, but if acts of careless individuals continue to jeopardize lives and property some type of enforced restraint will be demanded. Cigarette smoking is an example of a cause of fires that can be controlled, for a lighted cigarette in the hands of a careless or indifferent workman can

become a menace. With important properties constantly endangered by carelessness, managements can well afford to devote sufficient attention to the control of every practice that may threaten continuity of operation at a time when facilities destroyed by fire can be replaced only with difficulty, if at all.

The value of railroad property today can not be determined merely by computing the cost of the material and labor entering into it. The railroads are so essential to victory that each piece of equipment, each portion of roadway, each bridge and each building is of vital importance in our war effort. The burning of cars in wrecks, the destruction of a storehouse of vital materials or the loss of a bridge may mean a costly interruption of war production.

A few simple precautionary steps leading to the elimination of fire hazards will greatly aid the war effort and also save millions of dollars. These include the inspection of wiring and electrical appliances, the segregation of waste, rags and paper, the storing of inflammables in proper containers, and the inspection of fire extinquishers and fire hose. These and more elaborate measures warrant special consideration for the duration.

Handling the Soldiers

A soldier with a railroad background—and inclined by his pre-military career to judge transportation from the viewpoint of railroad management—has given us an account of extensive travel experience on the railroads during the past six months which is, to say the least, disturbing. These soldiers are going to be a major dependence of the railroads for future business, and the impression they acquire of the railroad industry now is a matter of primary importance—not only to railroad managements, but to railroad employees as well.

Our informant corroborates the general impression that the performance of most of the railroads in handling troops—both on government order and on furlough—is excellent. On the other hand, some few roads are not doing so well. The present generation of men in arms grew up in an automobile era and most of them do not know one railroad from another. The result is that an unfavorable impression gained on one railroad embitters the soldier to the whole industry. He may travel 2,000 miles on four or five different carriers and receive satisfactory treatment—only to have an unpleasant experience on a 50-mile segment at the end of his trip—and the 2,000 miles of good service is forgotten in the indignation at the final encounter.

Ordinarily, one railroad is not greatly concerned with the quality of service given by other roads. Before the war movement started, unsatisfactory service by an individual road carried its own punishment for the offender in the loss of the patron's business—but *then* most people who were using the railroads *did* know one from another, and there was, for most people, a wider choice of routes from which to select than is now available to most soldiers.

The point now is that below-par operating performance on one railroad is calculated to injure the reputation of the industry. Hence it is entirely proper *in their own interest* for carriers who are doing their job well to concern themselves with those who are not doing so well—not by criticism so much as by lending assistance to the organization which is having trouble.

The conditions of which our soldier friend told us did not relate to crowding and to necessary delays, which the soldiers can appreciate—but rather to lack of *consideration.* If a train is going to be delayed for two hours, is it a military secret too important even for soldiers to know that such is a fact? If there are two trains going to a popular destination for week-end furloughed men and one is crowded and the other isn't, some railroads arrange to make that fact known. Others, it seems, are too busy to bother.

These men in uniform are no saints, and they do not expect to be treated like a bunch of women going to a convention of the W. C. T. U. At times they are destructively exuberant and have to be curbed. But they are Americans who are putting up their lives for the rest of us at $1.66 per day—and they deserve to be treated with understanding courtesy, and to be given the most expeditious handling that safe and efficient operation will permit. And, apart from necessary military secrecy, the more about railroad operations which employees can impart to these soldiers, the more likely it is that they will be enlisted as permanent railroad friends and patrons.

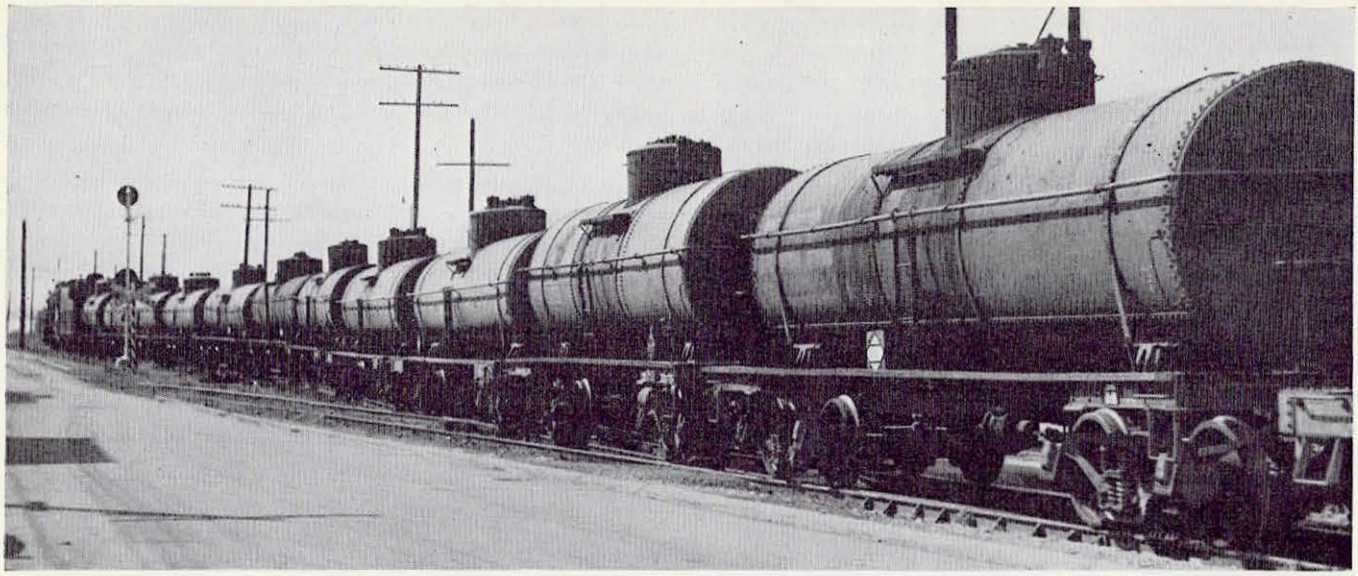
Railroads in War-Time

Here in Greensboro, on the Southern Railway's double-tracked north-south trunk line, with branches fanning out in other directions, we get what is perhaps a fair picture of what is going on with reference to heavy and increasing rail traffic all over the United States. Freight trains that seem to stretch in length as far as the eye can see, heavy with vital materials of every description; and lengthy mail, express and passenger trains, too, also carrying capacity loads are passing—day and night. Like "Old Man River," they "jes' keep rollin' along."

The pick-up in railroad business volume in the last decade, and more especially in the months since World War II broke out, has been great to the degree of astounding! It seems hardly possible now that only a few years ago many people were counting the railroads out—saying they might stay in the picture a while longer to carry "heavy goods" but asserting they would never again offer any serious competition for the planes, busses and trucks. How wrong these prophets were! And how lucky for us all that the railroads are still in the game carrying their part of the nation's transport load—the heaviest such load in history—now when victory is dependent to a very great degree upon our ability to keep cargoes, freight and passenger, rolling with speed and safety.

No American industry has sprung to the nation's vital task—that of winning the war—with more alacrity and efficiency than the railroads.

—Greensboro (N. C.) Record, October 16, 1942.



Many Trainloads of Oil Are Handled Daily in Faster Time

77 Trains a Day on Single Track

27-mile connection between double track stretches has its war-traffic performance expedited by c. t. c.

DURING one recent 24-hr. period, 77 trains, an average of one every 18 min., were operated over a 27½-mile section of single track on the Illinois division of the Missouri Pacific. Forming a "bridge" between two long sections of double track, this single track line has been able to carry the traffic of these double-track lines through the use of a centralized traffic control installation that was put in operation four years ago. Further south on this division, a smaller c. t. c. installation, 4½ miles in length, is in operation on another section of single track.

The Illinois division of the M. P. comprises the somewhat unusual combination of a line that itself originates much coal and oil and, at the same time, forms a most important through route over which traffic from the Southwest moves through the large M. P. yard at Dupo, Ill., at the north end of the division, for interchange with eastern lines. The present emergency has brought a marked change in the character of the traffic moving over this line. Some 40 per cent of the cars now handled consist of oil and oil products; coal and lumber represent 20 per cent each and the remaining 20 per cent includes much other traffic vital to the war effort. Under the circumstances, fast movement and lack of congestion are essential and, with the traffic averaging close to 70 trains per day, the c. t. c. installation is of the utmost assistance in assuring steady, efficient movement.

An Efficient Yard

The operations of the Illinois division are closely correlated with the terminal operations at Dupo yard, located just south of East St. Louis, Ill. This terminal is the largest on the Missouri Pacific and includes 110 miles of tracks, with northbound and southbound humps. A few years ago the capacity of this yard was considered to be 5,000 to 5,500 cars per day, but it is now handling an average of more than 6,300 cars per day. During

The C.T.C. Installation Is Operated from the Control Board at Chester, Ill.

June, 1942, a daily average of 6,633 cars was handled without undue delay, and, under present operations, it is estimated that 8,500 cars can be handled.

Until this year, the record high in-plus-out movement at Dupo was 5,633 cars, established on March 3, 1929, and handled by 16 locomotives and 28 five-man switching crews. This record is now being exceeded almost every day. On June 6, 1942, the movement through the yard totaled 7,607 cars, and it was handled with 18 locomotives and 39 crews. The change in operation that has taken place is indicated by the fact that, during the year 1941, Dupo yard handled an average of only 2,749 cars per day.

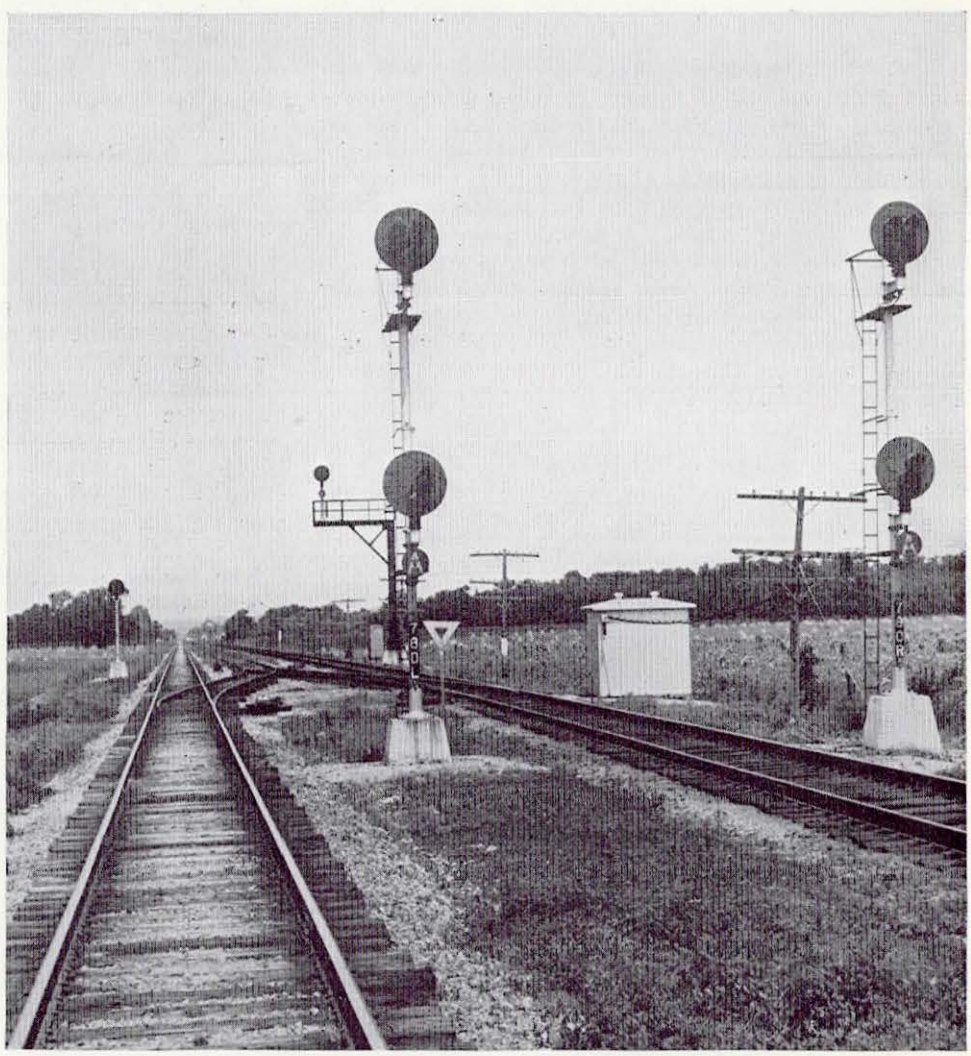
An Important Division

The main line of the Illinois division extends between Gale, Ill., just north of the Mississippi River bridge at Thebes, Ill., and Dupo yard, a distance of 112 miles. It is a part of the main freight line of the Missouri Pacific and is included in a joint operation with the St. Louis Southwestern between Paragould, Ark., and Dupo, Ill. The Cotton Belt operates one regular passenger train in each direction daily, while the Missouri Pacific passenger service is confined entirely to single-unit motor railcars. The movement of all passenger and freight trains, both M. P. and St. L. S. W., between Thebes and East St. Louis, is under the control of the superintendent and dispatching force of the Missouri Pacific.

Apart from heavy coal loading locally, this division is the main artery for freight moving over both the M. P. and the Cotton Belt from the Southwest to eastern railway connections at East St. Louis. The Missouri division of the M. P., which lies entirely on the west side of the Mississippi and enters St. Louis, is a more direct line but it traverses the foothills of the Ozarks and encounters far heavier grades and more curvature than the Dupo line, which is located close to the Mississippi river on relatively easy gradients. In addition, the routing of traffic over the latter line avoids the movement of overhead freight through the city of St. Louis. Thus only passenger trains and freight that is destined primarily for St. Louis proper are handled over the Missouri division and through freight, traffic including the important oil trains, is all handled over the easier grade line of the Illinois division.

The Illinois division is double-tracked between Dupo and Flinton, 49 miles. Between Flinton and Raddle Junction, 27½ miles, the line is single track and is equipped with a centralized traffic control system which has been in successful operation for the last four years. This is followed by a further stretch of double track between Raddle Junction and Howardton, 14 miles. Single track between the latter point and Halsey, 4½ miles, is also operated by c. t. c., installed several years ago, and from the latter point to Gale, 24 miles, the line is again double-track.

When the double-track on this division was constructed shortly after 1900, the section between Flinton and Raddle Junction was left single-track because of the heavy cost that would be involved in double-tracking it. One of the factors contributing to this cost is the num-



The End of Double Track and Beginning of C.T.C. Operation at Raddle Junction, Ill.

ber of single-track bridges that would have to be replaced by double-track structures. These include an 884-ft. bridge over the Okaw river, including timber trestle approaches, a 150-ft. truss span and a 216-ft. draw span; a 409-ft. trestle across the Okaw floodway; and a 355-ft. bridge, including a 150-ft. truss span, over Mary's river.

When, in 1937, the number of trains per day began to average about 55, this single track began to limit the capacity of the line (the c. t. c. installation on the single track out of Halsey had been in operation for some years) and operations were hampered by the change-over from double to single track operation in the middle of the division. Even the small number of passenger trains operated on this line led to many delays to freight trains and it was by no means unusual for coal trains to take three hours or more to move between Flinton and Raddle Junction.

The obvious solution was centralized traffic control and c. t. c. was put in service in 1938, since which time it has materially increased the capacity of the entire division while, during the heavy traffic in 1942 it has been invaluable in avoiding the congestion and delay that would otherwise have occurred on this stretch of single track.

In effect, it has given this single-track section sufficient additional capacity so that it no longer limits the capacity of the double-track portions of the divisions.

The signals for directing train movements and the power switch machines are controlled by the General Railway Signal Company's Type F, Class-M, coded system, using three line wires. The c. t. c. machine is located at Chester and is constructed according to the G. R. S. unit-panel type design. This machine has 19 levers for controlling 71 signals and 20 levers for controlling 17 single switches and 3 crossovers. The track and signal plan accompanying this article illustrates other features of this installation.

Operating Details

All dispatching, car distribution and assignment of motive power are handled from the dispatcher's office at Bush, Ill., while the operator of the c. t. c. machine is stationed at Chester. The record day for the Illinois division occurred on July 1, 1942, when there were 91 train movements on the main line and 77 movements over the c. t. c. territory. While some of these movements were passenger and local trains, the average train on that day carried 70 cars. Despite this heavy traffic, a number of the freight trains traversed the c. t. c. territory in less than 90 minutes, while a train of coal, consisting of 96 loaded and 3 empty cars, 7,388 tons, made the run, despite the heavy traffic, in 108 minutes. The following examples have been selected from among these trains:

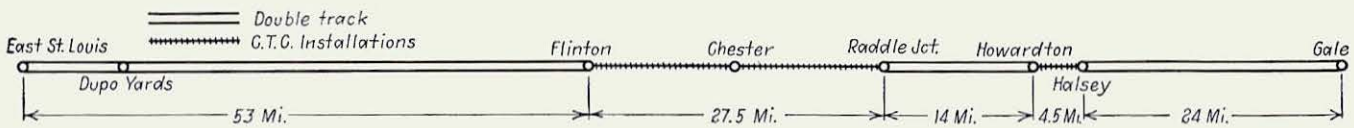
Loads	Empties	Tons Southbound	Time Flinton to Raddle
27	55	2,432	60 min.
0	109	2,398	63 "
46	37	3,136	64 "
27	54	2,749	64 "
37	67	3,272	76 "
0	110	2,408	82 "

Loads	Empties	Tons Northbound	Time Flinton to Raddle
67	33	4,409	69 "
67	23	4,390	71 "
52	0	2,829	79 "
82	15	5,086	80 "
71	13	4,229	89 "

As traffic has increased, the advantages of the c. t. c. operation have multiplied. Especially, it gives the dispatcher the advantage of direct and immediate control in the area affected and enables him to arrange meets and passes quickly and with the maximum flexibility, instead of freezing his meeting and passing points by train orders.

The line covered by this c. t. c. installation is equipped with several 184-car passing tracks which facilitate the use of rolling meets. Since a study indicates that freight trains on this district save 15 to 17 min. by making a rolling meet, this practice is used as frequently as possible when operating conditions permit. The c. t. c. also facilitates the use of No. 20 turnouts and a 30 m. p. h. speed through them, as contrasted with the former No. 10 turnouts requiring a reduction in speed to 10 m. p. h.

Furthermore, passenger motor trains are frequently run through these sidings while oil trains use the main line, in this manner effecting a meet between the passenger and oil trains with a delay of not more than a minute to the former.



Plan of the Illinois Division Showing Double Track and C.T.C. Installations

One Siding, Six Trains, One Hotbox

An example of the flexibility of the operation was observed in the dispatcher's office recently. On this occasion two southbound tonnage freight trains and a southbound local had been sent into a siding to permit three northbound oil trains, which were following each other at one block intervals, to pass. The first of these northbound trains developed a hotbox, but it took only a moment to divert the other two trains around it and to arrange to advance all three southbound trains, so as to hold delays to the minimum for all trains involved. Under train order operation, as contrasted with operation by signal indication, all of these trains would have been subject to delays and a serious tie-up would have developed.

The fast movement of oil trains over this division is illustrated by the following typical examples:

Northbound extra 1423, 97 loads (80 oil, 2 watermelon, 15 miscellaneous) and 4 empties, total 5,133 gross tons. Left Gale at 7 a. m.; arrived at Dupo at 11:50 a. m., traversing the 112 miles in 4 hr. 50 min., an overall average speed of 23.2 m. p. h. This train traversed the 27½ miles of c. t. c. territory in 55 min.

Extra 1317, southbound, left Dupo at 11:30 a. m. with a train of 124 empty tank cars and arrived at Poplar Bluffs, Mo., at 9 p. m., an elapsed time of 7 hr. 25 min. for 229 miles.

Such records indicate how necessary c. t. c. operation is to the Missouri Pacific. To handle as many as 77 trains in 24 hr. would have required a tremendous number of train orders and would have hampered the flexibility of operation to such an extent as to cause serious delays to traffic vital to the war effort.

How Accidents Impede War Work

Safety Council weighs effect of casualties in delaying and destroying war material and wasting personnel

THE serious effect of employee, train and grade crossing accidents upon our war efforts was considered at a meeting of the Steam Railroad section of the National Safety Council held in conjunction with the thirty-first National Safety Congress of that council in Chicago on October 27 to 29. The meeting, over which Chairman O. F. Gnadinger, supervisor of safety of the Elgin, Joliet & Eastern presided, was attended by more than 300 representatives of the railroads. Officers elected for the ensuing year are: general chairman, F. A. Bogue, superintendent of safety of the Chicago, Rock Island & Pacific at Chicago; vice-chairman, H. A. Daake, supervisor of safety of the Erie at Cleveland, Ohio; and secretary, M. T. Fulton, supervisor of safety and general fire prevention inspector of the Kansas City Southern at Kansas City, Mo.

Those addressing the meeting included Charles E. Hill, general safety agent of the New York Central; P. F. Buckle, superintendent of safety of the Chicago, Burlington & Quincy; Dr. Irving S. Cutter, medical director of the Chicago & North Western; H. G. Hoglund, assistant to the executive vice-president of the Burlington; E. J. League, inspector of the U. S. Bureau of Explosives; and W. J. Flannigan, assistant superintendent of safety of the Northern Pacific.

Crossing Accidents Injure War Production

Grade crossing accidents and their effect upon the effectiveness of the war program were discussed by Mr. Hill. "There never was a time in the history of railroad operation," Mr. Hill said, "when it was so essential that our man power be kept intact; that no acts upon the part of employees or others result in delay to the movement of traffic on the rails. Collisions at rail-highway crossings between motor vehicles and trains upon Class I railroads in the United States result in a yearly average of 4,000 accidents, causing 1,875 deaths and 4,700 injuries to those riding in the automobiles. About 200 of these accidents each year derail passenger and freight trains, resulting in death and injury to railroad employees and passengers on the trains. These accidents result in the destruction of a great many million dollars worth of property. Where such accidents cause derailments, railroad locomotives, cars and other property are damaged or destroyed and the roadbed and signal apparatus are rendered unserviceable. These monetary losses, of course, are only a part of the total inflicted through crossing accidents of all kinds, including those not reportable to the Interstate Commerce Commission.

"As a result of crossing accidents, a monthly average of 702 freight trains are delayed a grand total of 460 hours, and a monthly average of 435 passenger trains are delayed a grand total of 200 hours. This is a monthly average of 660 hours delay to 1,137 trains, or an average total daily delay of 22 hours to 38 trains.

"Eighty-two per cent of these accidents occur at crossings having special protection, not only the standard warning sign advising the motorist that he is approaching a crossing but also special protective devices such as flashing lights, gates or watchmen. These warning measures that have been installed at crossings at an enormous expense to the railroads, and in some instances to the public, are ignored. In one third of these accidents the motorist drives his car into the side of passenger or freight trains, all the way from the head end to the rear end.

Railroads Are Doing Their Part

"The railroads have accepted the added responsibilities that the war entails. They are meeting such obligations in full measure. They are doing a good job in maintaining their schedules in the transportation of passengers and freight. Their greatest deterrent in this regard is the thoughtless or reckless motorist who fails to take necessary precautions at grade crossings. While only about five per cent of the motorists belong in this category—as revealed through checks made at a large number of grade crossings—they comprise one and a half million drivers whose thoughtless or careless acts we are seeking to curb.

"We have approximately 230,000 rail-highway crossings at grade and 32,000,000 automobiles in the United States. In approaching this problem we must take into consideration that the physical condition, so far as the crossings themselves and the automobiles which are involved in 90 per cent of these accidents are concerned, will remain substantially the same for several years and particularly during the period of the war.

"Since 70 per cent of all accidents of this character occur at crossings where the driver of the automobile has an unobstructed view of the train and 82 per cent occur at crossings that have not only the standard warning sign advising the motorist that he is approaching a crossing but also some special protective device such as flashing lights, gates or watchmen, it is reasonable to assume that accidents occurring under such circumstances can all be avoided if proper precautionary measures are followed by the driver of the automobile.

"A little more than a year ago the President of the United States issued a proclamation calling attention to the rapidly rising accident toll throughout the nation. Particular reference was made to traffic accidents involving motor vehicles. In this proclamation the President called upon the officers and directors of the National Safety Council to mobilize its nation-wide resources in leading a concerted and intensified campaign against accidents. He also directed the council to call upon every citizen in public or private capacity to enlist in this campaign and do his part in preventing wastage of material and human resources through accidents.

"In compliance with this request the National Safety Council has called upon various industries, including the railroads, to carry out their part of the program through financial contributions and other active interest. As a part of this plan the railroads have contributed gener-

ously to a fund which is to be utilized by the council to bring to the attention of the motor-driving public the necessity for care in approaching rail-highway crossings at grade. This campaign will emphasize the fundamentals necessary to make it effective, namely, education and law enforcement."

Cut Out Trespassing to Conserve Man Power

Mr. Daake advocated the elimination of trespassing as a means for conserving manpower and outlined the efforts to reduce trespassing that are being made by the Steam Railroad section, the Safety section of the Association of American Railroads and other groups. He said in part: "During the past ten years, 24,769 persons lost their lives while trespassing; they represent a large army of persons who are not with us today. There is also a much larger army of men, women and children who were maimed or crippled during this period.

"The work of the police officers of the railroads is outstanding because they come face to face with the trespass problem daily. Last year they removed 1,781,398 trespassers from trains or railroad property, some of whom had criminal records. Railroad officers and employees have been of great assistance in reporting persons promptly who have no lawful purpose on the railroad and will continue to do so effectively.

"Many of the trespassers are persons who seek only to cross the tracks between crossings and it is here that it is every railroad man's duty not merely to say 'Do not trespass,' but rather 'Cross at the crossing with safety.' A greater wartime trespass prevention program is needed that will further help conserve our manpower, woman power, and boy and girl power for the supreme purpose of winning the war, and to bring us closer to universal safety when the implements of war the world over can be made into plowshares, pruning hooks and safety devices."

Sound Labor Relations Will Reduce Accidents

Favorable labor relationships have much to do with the attitude of the worker and upon his attitude of mind hinges his thinking before acting which is so fundamental to safety, according to Mr. Hoglund. He said in part:

"Because of lack of control of action, because of thoughtlessness or because of mental laziness, needless accidents occur, and prevention constitutes a real problem to perfect the attitude of mind. Good housekeeping, keeping tools and machinery in order, eliminates much exposure to hazard, and its importance cannot be over-emphasized, but despite these precautions accidents occur unless there is a good labor relationship.

"Primarily the supervisor is responsible for the safety of his workers, and he should devote a great deal of effort to the art of handling or leading men. Generally speaking, this can be acquired only through leadership training. The worker's attitude toward his job, his company, his fellow workers and toward his supervisor is, to a greater extent than some realize, the essence of good labor relations.

"Everything possible should be done to remove irritants that aggravate workers. Irrespective of all other conditions surrounding a man's job, if he has an aggravating type of supervisor, he will not perform his work cheerfully, and he is not, under such conditions, likely to be as careful as he should be. Upon the supervisor's ability to manage men and keep them interested and contented will depend the degree of success in safely performing the work in his gang or department. He cannot afford to treat lightly the importance of his own tactics, because his every act, however small, has its influence. All of us who have had any responsibility for directing the efforts of workers know that there are three general classes into which all men fall. First, the kind who do not need to be told, who have some initiative of their own and who expect some day to become supervisors. These men seem to do the right thing in the right way at the right time, without being told. Then there is a group for whom the supervisor must outline every move that they are to make. This is the middle group—the average worker—and the supervisor must do most of their thinking for them. They do as they are told and are reliable to that extent. Then there is the third group for whom the supervisor must do all of the thinking. Because they continue to err, these men tax the supervisor's patience to the limit. They are the ones he must watch closely to prevent unnecessary hazards to them as well as to their fellow workers.

"You safety officers represent the management and management can and should reflect its policies from the top down to the most humble supervisor. A safety performance will be as good as you want it to be, in so far as the human element can be dealt with in education, engineering and enforcement. If you attack the safety problem with enthusiasm, then supervisors all through the ranks will do likewise and the safety performance will reflect the labor relationship between every worker and the supervisor."

A Warning Against Employing the Unfit

"Pressure is coming from all quarters to modify, abrogate, or curtail railway pre-employment examinations and physical standards because of the heavy demands by war industries for war workers," Dr. Cutter said. "If the bars are let down now, we will secure a temporary respite but we will reap a whirlwind of inefficiency and disability in years to come. It seems fitting, therefore, that we attempt in a common sense fashion, to meet the problem of our present needs and at the same time guard against the acceptance of physical or mental hazards.

"First of all, attention may be called to the fact that mental illness is widespread; that it has been found in 6.3 per cent of our draftees, and that the ages for railway workers will include, if care is not exercised, a fair sprinkling of these unfortunates. But we are not concerned so much with the insane individual. The chances are that his condition will be obvious to the examiner. The one who demands critical attention is the emotionally unstable person who is responsible for a high percentage of all industrial accidents and for much unhappiness, not only in his own family but among his colleagues on the job.

"Those in charge of the dispensary of any large industry realize that a very small fraction of the total personnel make up the bulk of the repeat visitors at the clinic. They come with every complaint under the sun, varying from housemaid's knee to pains that are so bewildered that they are never found in the same region two days in succession. These unfortunates are beset

(*Continued on page 732*)

One of the New York Central Coaches Built by the Pressed Steel Car Company

Pressed Steel Delivers Coaches to the New York Central

The interior features are a distinctive color scheme and extensive use of gunmetal mirrors—The bodies are of riveted girder construction

THE New York Central recently placed in service 25 passenger coaches which were built by the Pressed Steel Car Company, Inc. These cars are the last of the 95 coaches, orders for which were placed with three builders during 1941. Those built by the Pullman-Standard Car Manufacturing Company and the American Car and Foundry Company are similar both in body construction and decorations. The coaches built by Pressed Steel differ from the others both in construction and decorations. The floor plans of all of the cars, however, are similar in arrangement.

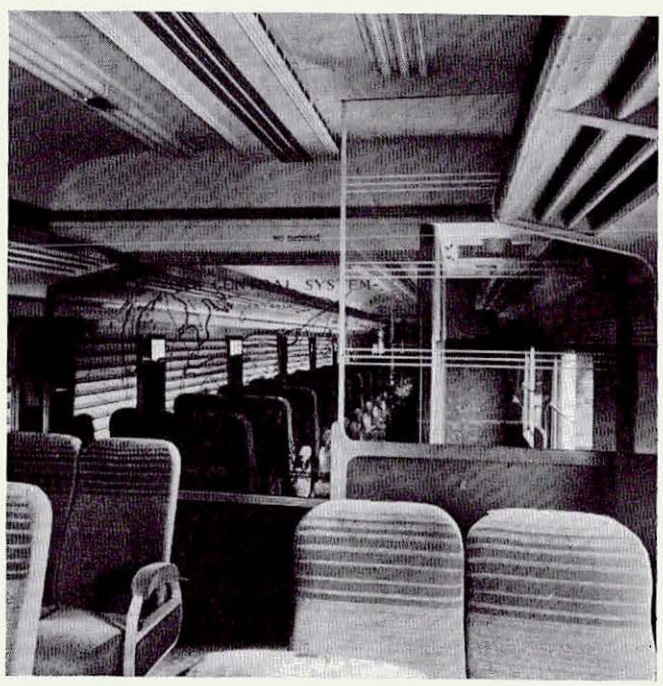
Interior Equipment and Decoration

The interior decoration and color schemes for the Pressed Steel coaches were developed by the builder in collaboration with Lurelle Guild, industrial designer, New York.

In the main compartment of each coach are double-rotating, reclining seats furnished by the Transportation Seat Company. The seats have foam rubber cushions and folding footrests. They are upholstered in Chase two-tone striped blue-green mohair. The floor underneath the seats is covered with black Marbelle linoleum and between the seats with gray-white Marbelle. These black and gray coverings terminate at the linoleum inlaid strips in the center of the aisle. The wainscoting from the top of the heater guard to the window sill is painted blue-green to match the seat covering. The space above the window header to the top of the molding underneath the continuous basket rack is painted aluminum; the ceiling above the molding is bone white. The window sills are sloped.

The pier panels between the window openings from the sill to the window header are covered with gunmetal mirrors surrounded by gunmetal-colored moldings, and on each of the bulkheads at the ends of the passenger compartment, from a height in line with the top of the window sill to the top of the basket rack, is a full-size gunmetal mirror. On this appears a map of the New York Central System showing the principal lines and larger cities. The upper portion of the full-height bulkhead between the end seat and passageway at each end of the car is of etched Herculite glass.

Variegated colors, which harmonize with the color



On the Etched Mirror at the End of the Passenger Compartment Is a Map of the New York Central System

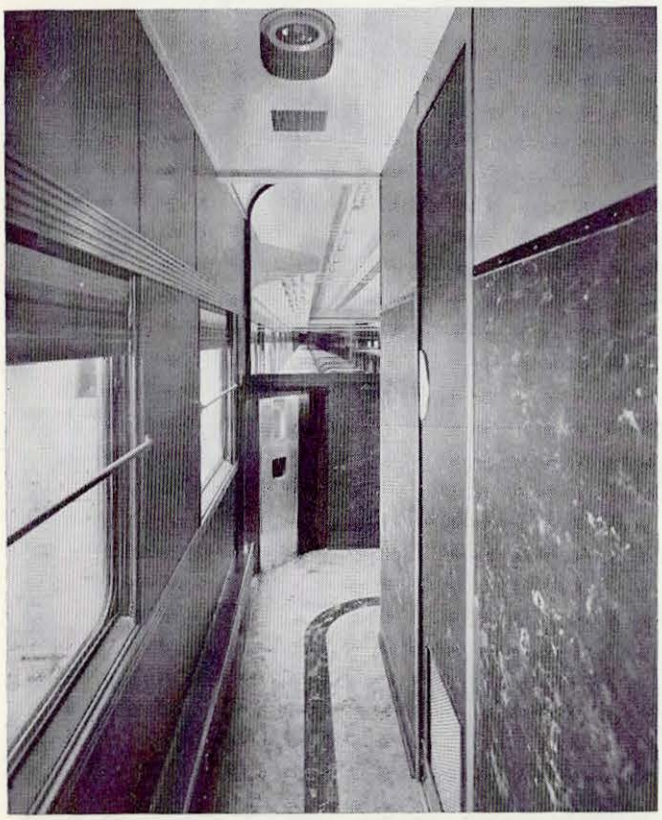
scheme of the interior of the main passenger compartment, give the interior face of the Pantasote shades the appearance of Venetian blinds.

The exterior face of the shades is green. They are operated by cable type fixtures furnished by Adams & Westlake.

The window sash are stationary and consist of Adams & Westlake double-glazed dehydrated units having ¼-in. polished plate glass on the outside and ¼-in. laminated safety glass on the inside, removable from the inside of the car. The continuous built-in basket racks have a specially designed louvered arrangement which allows vision into the racks when standing or placing baggage in them but which conceal their contents from seated passengers.

The tops of the baggage racks are covered with chrome steel cut out for the insertion of the louvers.

The moldings below the window sills, above the window header, on the basket-rack front, and the center moldings at the bottom of the air duct are of satin-finish chrome steel. The moldings at the basket-rack front

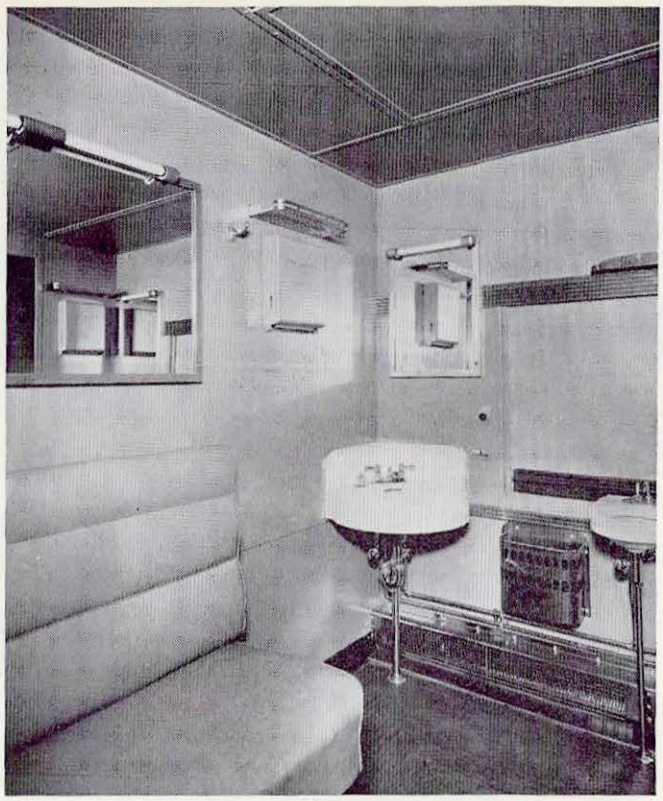


Looking into the Coach from the Corridor Opposite the Women's Lounge

and at the window sills are continued on the bulkheads at the ends of the passenger compartment above and below the large gunmetal map mirrors.

Both sides of the passageway, at each end of the car, including the women's lounge-room door, are covered with Linowall to the height of the window header. This material was chosen because of its resistance to marring or damage by hand luggage.

The coaches have a vestibule platform at one end only. The men's lounge at the vestibule end has a floor covering of blue Jaspe linoleum cut diagonally from the corners of the room to the center. The edges of the linoleum terminate in a 4-in. black rubber cove molding. The walls and ceilings of the lounge are periwinkle blue.



A Corner in the Men's Lounge

The two-passenger settee is upholstered in Chase Redo. The lounge is equipped with one dental bowl and three white enamel lavatories. Over each of the lavatories is a 110-volt receptacle for electric razors. There are mirrors with 12-in. Lumiline lamps over each lavatory and over the settee. On the door to each of the two toilet annexes are full-length mirrors, and at the entrance to the lounge is a portiere.

The women's lounge and toilet are at the stub end of the car. The floor of this lounge is covered with eggplant linoleum, the edges of which also terminate in a 4-in. black rubber cove molding. The walls and ceilings are semi-gloss peach bloom. The equipment in the lounge includes a full-length sofa covered with Chase fabric plush of a color to harmonize with the interior painting; a dresser with a vanity chair; two white enamel lavatories; a dental bowl, and mirrors with lighting fixtures of the same design as in the men's lounge. The door to the toilet annex has a full-length mirror. At the entrance to the women's lounge is a door and a semicircular portiere.

The water-pressure system has a 200-gal. tank and furnishes hot and cold water to the lavatories.

Construction Details

The car body, including all outside sheets, is primarily built of USS Cor-Ten steel. Because of the inability to obtain all of the materials contemplated, however, substitutes were found necessary in many instances which increased the weight of the car body somewhat over that originally proposed. The principal dimensions and weights of the coach are shown in the accompanying table.

The side frame is of the girder type of riveted construction, while the underframe—i. e., the bolsters, crossbearers, and center sills—are of welded construction. The ends of the cars are equipped with a General Steel

Castings cast-steel platform and center-sill casting, welded to the center sills. The center sills consist of two A. A. R. Z-sections, 31.3 lb. per ft., with the top flanges connected by a continuous weld. The cars are equipped with the Waughmat twin-cushion type draft gear, cast-steel yokes and National A. A. R. tight-lock couplers.

The folding steps and vestibule trap doors were furnished by O. M. Edwards, and Morton Kass chrome-steel treads are applied on the steps. The cars are arranged for end closure and have Morton vestibule diaphragms.

The car is insulated with Fiberglas at the sides, ends, floor, and roof. The floor is of the Keystone type, of galvanized steel, with Tuco lightweight composition flooring applied on top. The cooling unit of the electric water cooler is located above the ceiling in the women's lounge. The front is located on the passageway side of the separating bulkhead at the women's end of the car.

Lighting Equipment

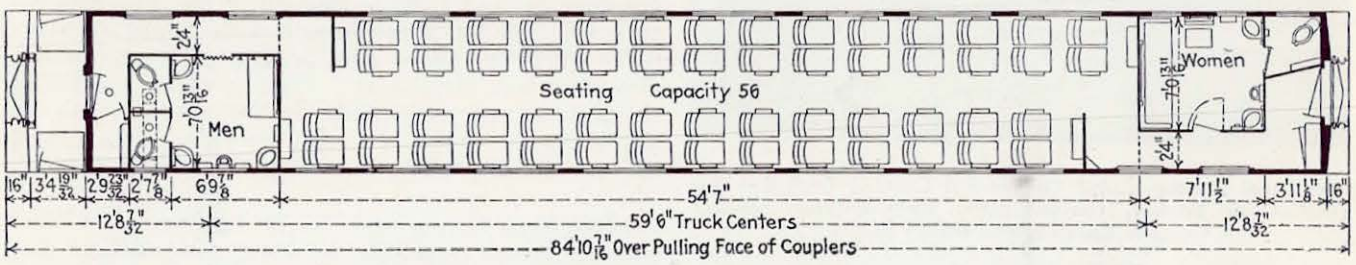
The lighting genemotor consists of a Safety Car Heating & Lighting Company 20-kw., 80-volt generator and a 15-hp., 220-volt, three-phase induction motor assembled as one unit and mounted on the car body, using resilient mountings designed for proper weight distribution. The genemotor is driven by a Spicer mechanical drive with automatic clutch. Plug receptacles are located on each side of the car for providing a.c. current to the three-phase motor from standby service for the operation of the air-conditioning unit at terminals and stations. The genemotor regulating apparatus consists of a Safety Car Heating & Lighting Company generator regulator, automatic switch relay, and lamp regulator.

Principal Dimensions and Weights of the New York Central Coaches Built by the Pressed Steel Car Company, Inc.

Total length over face plates coupled, ft.-in.	84–10–$\frac{7}{16}$
Center to center of trucks, ft.-in.	59–6
Height of rail to top of carline, ft.-in.	13–6
Width over side sill, ft.-in.	10–0
Weight of car body, lb.	93,280
Weight of two four-wheel trucks, lb.	39,902
Total weight, lb.	133,200
Seating capacity	56

The lamp regulator is set at 60 volts at the center of the lamp load.

General illumination is supplied by one 40-watt magnifying lens type lighting unit over each seat. Translucent plastic oval-shaped louvers in the space between



Arrangement of Facilities in the New York Central Coaches

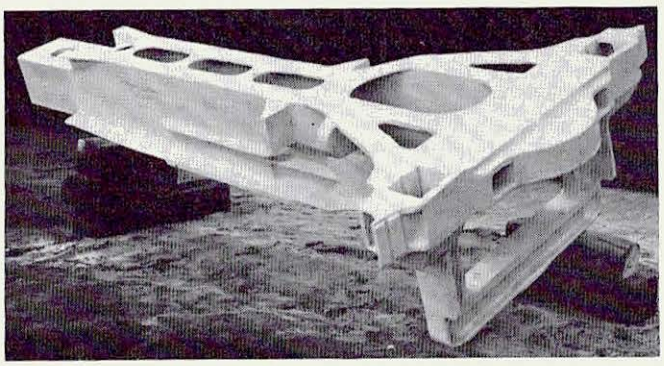
The Predominant Colors in the Interior of the New York Central Coaches Are Blue Green and Bone White with Gunmetal Mirrors and Satin-Finish Metal Moldings

the lenses give the appearance of continuous fluorescent lighting fixtures. The plastic louvers are lighted when the main lights are turned off by a 10-watt blue night bulb located midway between the lens type units. On the vestibule platform, in the passageways, toilets, and lounge rooms are individual lamp fixtures. Thirty-two cell, 600-amp. Gould storage batteries are used.

Air Conditioning

The Frigidaire electro-mechanical air-conditioning apparatus is of seven tons' capacity. It consists of a compressor-condenser unit located below the car floor and the air-conditioning unit above the ceiling of the men's lounge.

The insulated air duct in the center line of the ceiling of the passenger compartment is divided into a pressure and a diffusion duct, with pressure at the top and diffusion below. For convenience in cleaning the lower panels of the ducts are hinged full length.



The Steel Platform and Center-Sill Casting Includes the Draft-Gear Pocket, Center Sills, Body-Bolster Spacer, Coupler Carrier, and Buffer Beam

The floor-heat is provided by fin-tube radiation with Vapor-type thermostatic control. The train line consists of 2⅞-in. outside-diameter seamless-steel tubing, with Wovenstone insulation on all steam pipes, Vapor end valves, and couplers with Vapor horizontal type insulated steamheat connections.

Air Brakes

The cars are equipped with the New York Air Brake Schedule HSC brakes with D-22-AR control valves, and two 12-in. by 10-in. cylinders mounted on each truck, with an automatic slack adjuster for each cylinder. The hand brake, at the platform end, is the National Peacock No. 800-L type connected to brake shoes on both sides of the truck at that end of the car.

Trucks

The trucks are of the General Steel Castings single-equalizer type with bolster anchors in lieu of chafing plates. They have a 9-ft. wheel base and are fitted with Simplex clasp brakes. The bolster springs as well as the equalizer springs are of the coil type furnished by the Crucible Steel Company. The greater deflection of the coil bolster springs effects smoother riding at high speeds. The action of the bolster springs is controlled by Monroe one-way shock absorbers. The axles, which are of the latest A. A. R. design, are arranged for the application of 5½-in. by 10-in. Timken roller bearings. The trucks have Armco 36-in. diameter wrought-steel wheels with 11-in. hubs. They are fitted with Miner roller side bearings. The truck center pins are the Miner locking type.

Between the body center plate and body bolster is a sound-deadening rubber cushion which covers the entire center-plate base. Between the truck and body center plate there is a manganese-steel wear plate, and a Fabreeka sound-insulation filler is applied under the truck center plate.

How Accidents Impede War Work

(*Continued from page 728*)

with twinges which never cease wandering. With such individuals lay-offs are frequent and when anything happens, the other fellow is always to blame. Yes! they are ineffectuals.

"Because of the demand for help, the standard rejection criteria may be evaluated anew. It is obvious that a man cannot function adequately if he has a failing heart or a thyroid gland that is pouring poison into the blood stream. Many will present themselves with physical defects, however, which can be remedied. The one who shows a trace of albumin in the urine and the same time exhibits a foul mouth with jagged, decaying roots within the jaws may be cleared up completely through proper dental care. The one whose joints have begun to stiffen, particularly in the morning, may be taught how to live with a mild arthritis. This malady may be held in check by following certain hygienic regulations.

"Because of the necessity for hiring men in the older decades, certain problems involving compatability may present themselves. For example, if the foreman is 10 to 15 years younger than the men under him, he will need to exercise ingenuity. It is the habit of youth to be intolerant. On the other hand, a supervisor who is highly skilled may so harass the members of his group that he will reduce their output materially and their sense of co-operation will fall to zero. Anxious to make a showing, he may defeat the very end which he wishes to accomplish. He needs to recall that some day he will become old with perhaps less supple muscles. When that time comes he in turn will long for an understanding overseer.

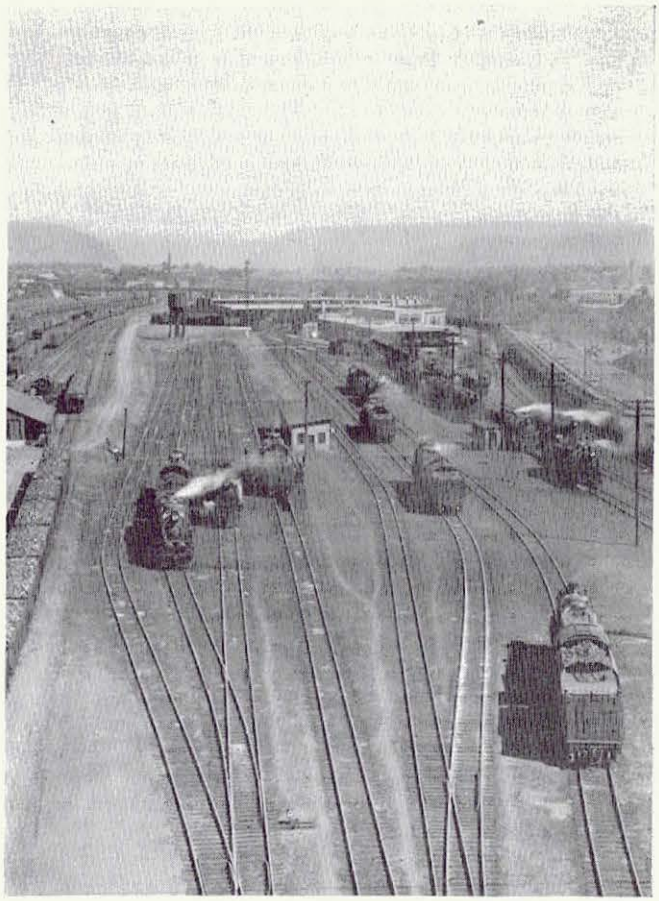
"Certainly we are justified in taking on older applicants, if arrangements can be made for interval re-examinations. In addition, there are many corrective procedures that may be suggested that will render one thoroughly equipped to take a job for which otherwise he would be rejected. Infections within the oral cavity may be eliminated, and eyesight safeguarded with proper spectacles. While flat foot is no indication for non-acceptance, nevertheless the adjustment of proper footgear to a badly depressed longitudinal or metatarsal arch may be followed by marked improvement in general health, with enthusiasm for work instead of the reverse. Likewise abscessed tonsils may be removed and a pre-employment hernia may be repaired."

"Profit Motive" in Russia.—"Recent visitors to Soviet Russia found, to their interested surprise, that the incentive of profit was highly regarded by the communist state. Some workmen, they discovered, made on the same job ten times more than others, and some superintendents a hundred times more, only moderately adjusted by taxation."—*Arthur Krock in the New York Times.*

War Problems Dominate Bridge and Building Annual Meeting

Abstracts of four addresses and six additional committee reports presented before the forty-ninth annual meeting of the American Railway Bridge and Building Association, October 20-22

Part II



CONTINUING the running report of the forty-ninth annual meeting of the American Railway Bridge and Building Association that appeared in the *Railway Age* of October 31, together with abstracts of several addresses and two committee reports, abstracts of the six remaining committee reports and of four other addresses that were included in the meeting program, appear in this issue. The addresses were presented by Edwin M. Fitch, assistant director, Division of Transport Personnel, Office of Defense Transportation, Washington, D. C., on The Outlook for Labor in Bridge, Building and Water Service; by W. D. Beck, district manager, Car Service division, Association of American Railroads, Chicago, on Reducing Demands for Cars and Locomotives for Handling Bridge, Building and Water Service Materials in a Period of Maximum Traffic; by B. R. Kulp, chief engineer, Chicago & North Western, Chicago, on the Protection of Railway Structures in Time of War; and by R. P. Hart, bridge engineer, Missouri Pacific, St. Louis, Missouri, on Possibilities for Reclamation and Salvage in the Bridge, Building and Water Service Departments.

The committee reports covered embrace the following subjects: Meeting the Demands for Increased Water Supplies in Fast Freight Service; Rail Fastenings on Bridges, Pits and Turntables; Piles and Pile Driving; Wearing Surfaces for Building Floors, Platforms and Roadways; Cleaning of Masonry Structures; and Preventing Accidents Among Bridge and Building Employees. Abstracts of three other addresses before the meeting, presented in a symposium on The Conservation of Critical Materials in Bridge, Building and Water Service, by J. B. Hunley, engineer of structures, New York Central, Lines West of Buffalo, Chicago; O. G. Wilbur, appraisal engineer, Baltimore & Ohio, Baltimore, Md.; and G. E. Martin, superintendent of water service, Illinois Central, Chicago, will appear in a subsequent issue.

The Manpower Problem

By Edwin M. Fitch*

Unfortunately, the manpower problems with which you were confronted at the time of your last meeting a year ago foreshadowed only dimly the problems which confront you now. The most dramatic change in this respect has been brought about by the growth of our military establishments.

The most striking difference between this war and the last one, so far as the railroads are concerned, is the fact that they are not now being operated by a Railroad administration, but are being co-ordinated by an Office of Defense Transportation. This means that, subject to the guidance, and in some cases the orders, of the Office of Defense Transportation, the responsibility for the success of the railroad industry is primarily your own. That applies to manpower problems as much as anything else.

Recently, the Association of American Railroads undertook a survey of personnel needs and training facilities among Class I railroads. The returns indicated that these roads, on September 15, needed about 5,000 men in bridge, building and water service occupations. This number of unfilled vacancies is equal to nearly one-ninth of the total bridge, building and water service employment as of the last month for which figures are available.

Among the advisory instructions given to all local Selective Service Boards is an occupational bulletin bearing the title "Transportation Service Activity." This bulletin lists essential occupations in transportation under each of its branches. The railroad list includes 116 occupations. If you have men in these occupations who might be placed in Class 1-A, except for their occupation, or whom you cannot let go because you are unable

* Assistant Director, Division of Transport Personnel, Office of Defense Transportation, Washington, D. C.

to replace them within a reasonable time, it is both your right and duty to submit on Form 42-A all the data which the Selective Service system requires for the making of decisions as to occupational deferment.

You should take Form 42-A very seriously and fill it out as completely and full as you can. Never make the mistake of having the form a carbon copy of a 42-A for another man in the same occupation. To obtain deferment, it is not enough that an employee be a necessary man in an essential occupation in an essential activity. There must also be a shortage of available personnel in the essential occupation such that the employee in question cannot be replaced within a reasonable time. No argument is more compelling with local Selective Service boards than a showing that you have turned yourself upside down in an attempt to recruit and train replacements.

You should give consideration to a greater amount of pooling of employment in maintenance operations. There should be similar pooling arrangements between maintenance-of-way and maintenance of equipment forces. This pooling could even be extended to include several railroads within a given area.

In dealing with the problem of recruiting, you should first exhaust all possibilities of locating applicants through the Federal Employment services. In the second place, you should try to fill your employee ranks with as many men with both wives and children as you possibly can. In the third place, if you have not already done so, you should throw overboard the maximum hiring age limits which have been traditional in the railroad industry in the past.

The Office of Defense Transportation is urging all employers in the transportation industry to undertake planned personnel programs on a basis of careful inventories of their own personnel situations. Several railroads have already begun to make personnel inventories.

Finally, we are interested in increasing the effectiveness of the existing staffs of transportation employees. An important means to this end exists in programs of labor-management co-operation which were begun on the railroads many years ago, and which ought to be extended to the entire industry today. Time and again it has been seen that once employees are given a systematic means through which to express their ideas about increasing efficiency and preventing waste, they not only contribute good suggestions, but they also take a greater and more favorable interest in the institution for which they work.

Must Cut Company Use of Cars and Locomotives

By W. D. Beck*

The real target at which it is desirable that you men shall shoot in reducing the use of cars and locomotives in company services is the magnificent record of co-operation on the part of shippers and receivers, not only as concerns heavier loading, but especially their efforts in the rapid loading and unloading of cars. As a result of this co-operation, the total number of cars awaiting release by our patrons, as compared with the total on hand to unload, is running somewhere in the neighborhood of 15 or 16 per cent—a miraculous situation when compared with the record of earlier years.

I know whereof I speak with respect to the number of gondolas, hopper and flat cars tied up with company material, and in many instances unnecessarily, because the use of these cars might have been avoided if those responsible for their use had ordered box cars, stock cars or work cars instead for your materials. We cannot escape the fact that practically 95 per cent of our war equipment is being shipped in open-top cars, and certainly everybody knows, or should know, that not a single hour's delay must be permitted in the movement of this war impedimenta. You are, therefore, urged with all the energy at my command, to discontinue using open-top cars for any of your materials unless they are of such nature as will absolutely prohibit loading in any other type of car.

* District Manager, Car Service Division, Association of American Railroads, Chicago.

Emphasizing the delays to which railroad equipment is being subjected, I quote some totals from the Car Service division's report of September 1. No doubt, you will be alarmed to observe the car-days delay reflected therein. As to cars of coal and coke on hand for all companies, the number of days' supply runs all the way from 1 to 20, yet we are firmly of the belief that many roads could get along with five days' supply; indeed, in some areas close to coal mines, they could get along with three. Therefore, we ask that you scan this particular item as it pertains to your own railroad and bring about an improvement. The average day's detention for other company material runs from one to eight days per car. Indeed, in one instance it runs to 10 days, and in another to 30, which we believe, and you know, is entirely out of line with requirements and good railroading.

The total number of cars of company material on hand for all the railroads in the United States on the particular date under consideration adds up to 53,700 cars, or almost 4 per cent of the entire car ownership. We maintain, and believe that you will agree, that this is much more than should be permitted.

In many instances we have found that your purchasing departments are ordering supplies loaded on your own cars, and that they have also insisted that certain materials, perfectly capable of being loaded into box or stock cars, be loaded in open top cars. Purchasing departments should immediately discontinue ordering the use of their own equipment for the duration, because this requires too much switching and other delay. They must also discontinue ordering open-top cars.

It is also well known to you that we are far from being well supplied with motive power. Therefore, let me urge you briefly, and yet with earnestness, that whenever materials are capable of being released from cars without the use of locomotives, it should be done.

Protection of Structures

By B. R. Kulp*

All military tactics and strategy are based on the maintenance of communications. Armies whose communications are cut or interrupted seriously are in a hopeless position. The maintenance of communications is so far-reaching as to include the source of supply and the means of transportation to the ultimate theatres of action. In a war economy, the transportation of troops and war materials is just as important to victory as the successful field operations of the armed forces. To assure this continuous movement of men and material, the nation looks to us to do our part.

The greatest threat to this uninterrupted service is sabotage. America's experience during World War I proves that we have many vulnerable targets for those intent on sabotage. In our field, the objectives of the enemy include railway bridges, freight depots, docks, power plants, interlocking plants and freight classification yards.

From the activities of the Federal Bureau of Investigation, it is reasonable to assume that our enemies are well established in this country for carrying on subversive activities, using every opportunity to disrupt production and transportation. *They must not be underrated.* They employ intelligent technique and ingenuity in their methods, and are daring beyond question.

The major protective measures that can and are being employed are as follows:

(1) Investigation and identification of employees by badge and photograph, together with the filling out of questionnaire forms and the taking of fingerprint records on F. B. I. forms, including small-size front view photograph. Authorized visitors are also required to wear badges while on the properties.

(2) The erection of high wire fencing, where practical, to enclose vulnerable areas, confining the entrances, where possible, to one common gate, where a guard (in most cases armed and deputized) is on continuous duty with authority to admit no one unless properly identified, and to open and examine all packages.

(3) Floodlighting, where practical and necessary, is used as an effective means to discourage and control trespassing, and to

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assist guards and watchmen in the performance of their duties. Power houses and outside power and lighting transformer banks are extremely vulnerable and important to the continuous operations of plants and terminal facilities and should be given special consideration.

(4) The use of armed and deputized guards, or watchmen, roundsmen and roving agents, at vulnerable areas and at important bridges, other structures and terminals.

Because of the combustible composition or content of many structures, fire is the principal hazard. Such structures should be carefully studied and suitable fire extinguishing equipment and other appropriate fire-fighting apparatus should be provided. This equipment should be inspected frequently against tampering and to insure proper maintenance, so that it will be ready for immediate use in an emergency.

Care should be exercised in the distribution of switch and master keys, and a careful record should be kept of those to whom keys have been issued. Extreme care should be exercised in the distribution of drawings, blueprints, correspondence or information which could in any way help the enemy. Information pertaining to train movements, class of equipment, tonnages and types of lading being handled or troops carried, should never be disclosed or discussed unless necessary, and then only with authorized persons.

The F. B. I. is very co-operative and has aided our road greatly with suggestions on our protection problems. It is important, therefore, that you see that your personnel reports to you promptly any attempt at sabotage, or any irregularity which may indicate such an attempt, regardless how small. You, in turn, should lose no time in relaying these reports, together with all details and the results of your investigation, to your superior officer, so that he can bring them to the attention of the F. B. I.

Vigilance in times of war is a definite duty of all railway employees. It is particularly the duty of you engineers and bridge and building supervisory officers, as in the carrying out of your duties in the field you are in a position to notice irregularities or places where acts of sabotage could be attempted. Then too, you are charged with the employment of greater ingenuity and alertness in the protection of strategic and vital structures. And remember, the same alertness and enthusiasm that you expect in your men must be ever evident in yourself, or you will fail to inspire them.

Conservation of Materials is Essential

By R. P. Hart*

All of us on the Missouri Pacific are taking the war very much to heart. Under the leadership of Mr. L. W. Baldwin, our president, we are constantly impressed with the fact that the part the railroads must play in bringing about victory is a very great and grave one. As a result, we are proud of what we have been able to accomplish.

So far this year, our lines have plowed back into industrial steel furnaces 48,000 tons of scrap. We stopped considering scrap from a dollars and cents standpoint. If it costs $50 to get out $40 worth of scrap, we get it out. We are now reclaiming materials that we formerly purchased, regardless of the economics involved.

The same patriotic principle and the same desire to be of service have been and are now actuating our efforts to furnish the government as much of the vitally needed rail as possible. Our search for rail for the government has extended beyond the more or less orthodox sources. Until recently, it had been our practice to install inside guard rails on all of our deck-type bridges of 100 ft. or more in length and 10 ft. or more in height. To release much of this rail, it was decided to modify our standards to provide for the installation of inside guard rails on only those deck-type bridges which have both a height of 20 ft. or more and a length of 200 ft. or more. In addition, while we did not remove guard rails from through-type bridges under this program, we did adopt certain rules which have permitted us to release part of the guard rails on some of the longer and higher deck-type bridges. Another rule, which permitted the release of additional guard rails, called for their elimination at points where train movements are at speeds not exceeding 20 m. p. h.

Under this program, we have released approximately 320,000 lin. ft. of rail of various weights, some of it having only scrap value, but most of it being adequate for use in tracks serving war industries. The program is now complete, all rail having been forwarded to points of more effective service and making up part of the 400 track miles of rail released by the Missouri Pacific Lines in 1941 and 1942 to war plants, basic industries and military railways.

For many years our company had followed the practice of providing sheet-metal fire protection over the caps and stringers of open-deck timber trestles. This practice has now been discontinued to save the metal required by such a standard. Other metal which it has been possible to salvage from existing structures consists of sidewalk brackets, pole brackets, light standards and other metal fixtures attached to steel spans and piers, and which are no longer essential. In addition to salvaging rail and other miscellaneous metal, more careful consideration is now being given to reclaiming second-hand steel spans and beams in store yards, or which we may be able to recover from bridges on abandoned lines.

A large per cent of the bridges on our railroad are of timber construction, many of them of untreated timber. In view of the War Production Board's Conservation Order M-208, covering softwood lumber, we will, undoubtedly, find it necessary to resort to greater use of second-hand untreated timber for the maintenance of these structures. To get the greatest possible use from the limited quantities of such timber available, we are arranging to apply a creosote treatment to sound sections of second-hand timbers removed from bridges because of decay at the bearings.

During the last 10 years, some of our station buildings, due to changed conditions locally, or in the operation of the railroad, have become obsolete and have been abandoned. We now find that they contain much valuable material which can be used in the maintenance of other existing stations and for the construction of needed station facilities at locations adjoining war industries. In addition, a canvass of our system disclosed that many heating plants and plumbing fixtures could be released at points where changed conditions no longer made them necessary.

In a further effort to reclaim and salvage materials, we have undertaken a program of removing underground pipe lines which were abandoned in place, some of them having been abandoned for more than 15 years. As a result, something like 200 tons of pipe have thus far been recovered.

As railroad men, you have probably read the recent comments of Chairman Aitchison of the Interstate Commerce Commission, to the effect that in the nationwide campaign to collect scrap, the railroads have taken the lead and are doing a most remarkable job. This is true, but we must not rest upon our laurels. It is our job to help, and we must keep ever alert to the possibilities of saving, reconditioning and re-using every available piece of serviceable material and equipment.

Preventing Accidents

Indicating that safety is uppermost in the minds of bridge and building men, even in these days of stress and large labor turnover, a committee, of which E. H. Barnhart, division engineer, Baltimore & Ohio, was chairman, presented a report in which the extent to which accidents can be prevented, the means by which this can be accomplished, and the division of responsibility between management and men, were discussed at length. In answer to its own query whether accidents can be prevented, the report stated that they can, and that "if the management furnishes safe equipment, tools and machinery, accidents are not its responsibility."

"But," continued the report, "management is made up of human beings—our immediate superiors and those higher up. If they are interested in safety, that interest will filter down to the humblest employee. So it is the officer's duty to show to employees his intense interest in safety and to insist on safe and sane methods among them. It should not be forgotten that one unsafe man in a gang jeopardizes the lives of the whole gang.

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If this employee is not amenable to discipline, or will not practice safe methods, the responsibility rests with the officer to take such steps as will make the gang safe. Constant vigilance should be the rule of the officer. Safety should be uppermost in his mind, and he should not hesitate to call it to the attention of his subordinates at all time."

Going a step further, the committee placed a direct responsibility on the foreman to enforce safe practices, saying that "if he is not constantly on the alert to detect and correct unsafe practices, an accident will soon result. The major responsibility of the foreman lies in the education of his men along safety lines. This is particularly necessary at present when so many new and younger men are being employed. Older employees should be familiar with safety methods and have enough experience to practice them. The foreman should not permit even the slightest infraction of a safety rule, for if he does he has lost a valuable asset in safety education."

Analyzing the means by which new men can be impressed with the importance of safety practices, the report said that "the foreman should go over the safety rules constantly with his men, for it is only by continued repetition of such rules that they become fixed in the minds of the men—become a habit. The foreman must be a leader and possess a personality to impress his men.

Younger men, especially, look to and admire leadership. The foreman who is a leader can obtain greater efficiency from his men, and can do more work safely than a weaker man. More attention should be paid to men newly entering the service, with an endeavor to educate them along safety lines."

After an extended discussion of the causes of accidents, the committee recognized the fact that many of them result from man-failures by asking whether there will ever be a time when we can remove the causes of all accidents, and then answering its own question with the statement that, "So long as the human element is involved in such accidents, it seems hardly probable that we will attain complete perfection. Only by constant application and attention to our work can we hope to minimize and reduce the causes for accidents to as near zero as possible."

The report concluded on the note that "safety is a twofold problem—management and men. Unless officers are constantly and continually interested in the safety movement, it will lag, resulting in an increase in accidents. Primarily, the heaviest responsibility rests upon the individual and upon the direct supervisory officer—the foreman. No other person can do so much to promote safety as the foreman. He can do more than the individual workman, as a slip-up by him may result in injury to several in the gang. The foreman must be a leader and able to impress this leadership on his men, but in the final analysis, the individual workman must be intensely interested in his own work so that he will *want* to do his work safely and efficiently, and in such a manner that there will be no injury to himself or his fellow workmen. Education of the individual by the foreman so that the safe manner shall become a habit, and the constant stressing of safe methods, are the two main essentials for producing 'no accidents.'"

Increased Water Supplies for Fast Freight Service

In introducing this subject, the committee, of which J. P. Hanley, water service inspector, Illinois Central, was chairman, called attention to the great increases that have been made in both train loadings and speeds of operation during the last two decades, and said that, "to maintain the schedules necessary to accomplish these results, certain changes have been made in servicing the locomotives handling these trains. The fast-freight locomotive now requires a larger volume of water at increased flow rate at locations often designed for much less severe operating conditions. This has resulted in placing unusual demands on terminal and key stations, and in decreasing demands at other points."

The report cited instances of facilities required to meet demands for large water deliveries to locomotives in minimum time, reaching to 5,000 gal. per min., and to as much as 250,000 gal. an hour, and recommended that in new installations and in remodeling existing facilities provision be made for a flow of 4,000 to 5,000 gal. per min. through water columns. The committee also concluded that the use of increased roadside storage at key and terminal stations is often required to supply large tenders during peak periods, and suggested that this increase in storage can sometimes be obtained by reusing tanks retired at intermediate stations.

"The use of locomotive tenders with capacities of 20,000 to 25,000 gal., is pronounced at present, and it appears that this practice will be extended," in the opinion of the committee, which added "The water flow and capacity to supply large tenders promptly are inadequate at some stations, and plans should be made to correct existing conditions and to prevent this condition in future installations."

The committee also cited instances of installations which make it possible to take water and coal and clean ash pans, all at one stop, but made no recommendation with respect to the operating advantages, including a saving in time, of such an arrangement. One road included in the committee's summary suggested the advisability of taking a long range view when planning water station improvements, and of studying the effect that Diesel locomotives will have on water demands.

Cleaning of Buildings

Stressing the need for clean, cheerful surroundings and their effect on both the occupants of buildings and the general public who may use them, a committee, of which W. A. Huckstep, general supervisor of buildings, Missouri Pacific, was chairman, said that "Operations conducted in clean, cheerful surroundings, both inside and outside of the building, usually cost little more than those conducted in indifferent surroundings; however, the effect of clean surroundings on customers and on the general public creates good will and a 'come-back-again' feeling which has a definite value."

The report went into minute detail to describe the various methods and equipment available for cleaning brick, terra cotta, stone and concrete surfaces that have become discolored by smoke, dirt, oil, tobacco, iron rust, copper and bronze, blood and other agents, and the advantages and disadvantages of each, after which the following preferential order for the several methods was recommended:

Water vapor cleaning, steam cleaning, acid washing (excluding hydrofluoric acid), sandblasting and hydrofluoric acid washing.

The committee also recommended that buildings more than three stories high, and those in cities, be cleaned by contract, but that the question of cleaning other buildings with the regular bridge and building forces be given serious consideration, stating its belief that a considerable saving can be effected by doing so.

Piles and Pile Driving

"The pile driver still is of the first importance in the construction of pile trestles and foundations requiring bearing piles. Present-day train schedules and traffic densities require a track machine of modern type that, with idler car and tender attached, can move under its own power at a speed of not less than 20 m. p. h.," according to a report on Piles and Pile Driving, by a committee, of which W. F. Martens, general foreman, bridge, building and water service, Atchison, Topeka & Santa Fe, was chairman. The report added that, "while there still exists a difference of opinion with regard to the relative merits of the single-end and the full-revolving types, the trend is definitely toward the latter."

The report discussed at some length the merits of drop and steam hammers, and compared the effectiveness of light and heavy rams in the latter type. The committee expressed its belief that "the heavier ram will drive the more difficult pile under all conditions, while a light ram, like a light drop hammer, with a high velocity of impact, will damage the head of the pile."

The report then went into considerable detail relative to wood, steel and concrete piles and the various designs of precast and cast-in-place concrete piles, which was followed by a discussion of the methods adapted for driving each type and the cost for

each. Jetting and preboring were also discussed as alternate or supplementary methods where it is difficult to obtain the desired penetration by driving alone.

Rail Fastenings on Various Structures

In a comprehensive report on rail fastenings on bridges, pits and turntables, by a committee, of which J. S. Hancock, bridge engineer, Detroit, Toledo & Ironton, was chairman, the committee stated that "one of the most satisfactory methods of supporting track over bridges is by means of ballast decks, since this gives riding qualities similar to the track on embankment, and allows it to be maintained by the regular track forces, the fastenings in this instance being the same as on the approaches."

The report included an extended review of the widely divergent practices with respect to designs and methods of fastening the rail to open decks and directly to concrete decks, on engine and cinder pits and on turntable decks and circle rails, as shown in information gathered from a group of railways aggregating 135,000 line miles. From a study of these practices, the committee concluded that "where ballast-deck construction cannot be recommended, owing to one or more limitations, the rail may be fastened directly to the steel or concrete deck by means of heavy-malleable-iron rail plates and clips."

With respect to open-deck structures, the committee stated that "the preframed and prebored creosoted timber tie and standard track fastening are still in universal use, but ties of quality, even when preframed, prebored and treated, have tendencies of weakness. They are subject to checking and splitting, fire damage and damage from derailments. However, no suitable substitute for them has yet been developed."

It was also recommended that "consideration be given to welding rail joints on open-deck bridges to give smoother-riding track and to reduce impact."

Wearing Surfaces for Floors and Platforms

Stressing the importance of selecting the wearing surface that is most suitable for use in each class of service, a committee, of which T. H. Strate, division engineer, Chicago, Milwaukee, St. Paul & Pacific, was chairman, enumerated the characteristics needed to meet the requirements of the various classes of structures, as follows:

Important passenger stations—Must have resistance to abrasive action of heavy pedestrian traffic; must not be slippery; must be easy to clean; must be water repellent; should have some resilience; should be of neutral color that reflects, rather than absorbs, light; and sound absorption would be advantageous.

Second-class passenger and freight stations—Should have nonslip and light-reflecting surfaces.

Offices—Sound-absorbing qualities of prime importance.

Important freight stations, warehouses and piers—Smoothness and hardness most important requisites, with rigidity instead of resilience; must be impervious, odorless and dust proof.

Shops and enginehouses—Must be impervious to hot and cold water, oils and greases; must withstand shock from heavy falling objects; should be resilient and strong enough to withstand heavy concentrated loads.

Pedestrian walks, loading and trucking platforms—Resistance to elements; ability to free themselves quickly of surface water; resistance to abrasive wear; and resistance to ice-melting chemicals.

Roadways for terminals, team tracks and station roadways—In general, the construction should correspond to adjacent streets.

The report discussed various materials, including wood plank, wood blocks, concrete, terrazzo, magnesite, brick and bituminous materials, and the characteristics of each, but made no recommendations for their application to any facility, on the ground that in any instance the choice will be affected by the conditions of traffic, the elements, the availability of materials and other considerations.

Materials Receipts

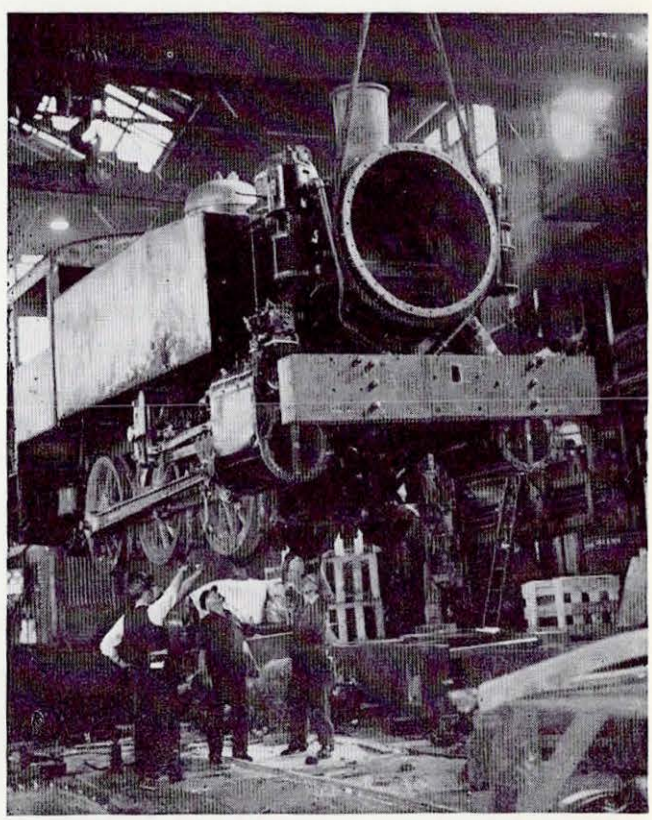
CLASS I railroads received $102,515,000 of materials and fuel in August, consisting of $36,662,000 of fuel and $65,853,000 of rails, crossties and other materials, as indicated by incomplete returns for the month. Subject to revision, the totals reflected a 6 per cent increase in fuel deliveries over July and an increase of 3 per cent in materials, thus reversing slightly—but only slightly—the declining trend of the previous four months.

Approximately 20 per cent more fuel was received during August of this year than in August, 1941, but the aggregate volume of materials received by the railroads in August declined 9 per cent from that of August of last year—this being the second consecutive month when deliveries of materials, exclusive of fuel, to the railroads fell below the volume in the same month of the previous year.

August totals brought the materials received by Class I railroads during the first eight months of the year to $848,075,000, consisting of $272,592,000 of fuel and $575,483,000 of materials, exclusive of fuel, which was an increase of 25 per cent in fuel as compared to the deliveries in the first eight months of 1941, but an increase of only 12 per cent in the deliveries of materials, exclusive of fuel.

Aggregate inventories on August 31, amounting to $529,978,000, included $382,074,000 of materials, exclusive of fuel, rails and cross ties, which was unchanged from July 31, but about 2.5 per cent under June 30, although reflecting a 38 per cent larger inventory—unadjusted for differences in material prices—than on August 31, 1941.

* * *



A 120,000-lb. Steam Locomotive Being Built for the Army Is Lifted By One of the Huge Cranes at the Pittsburgh, Pa., Plant of the H. K. Porter Co., Inc.

Private versus Federal Control*

An objective analysis of conditions leading to federal control in the last war, and of the causes for present superior railroad performance, suggests the conclusion that federal control now would be harmful, not helpful

By Paul Waldo Seiler, Jr.

THE problem of private management vs. federal control of railroads can now be viewed in only one light—how best we can win the war. There are two schools of thought on this question. Many people maintain that, in view of the excellent job that is now being performed by railroads, the government should leave the roads alone; others point to the fact that "the worst is yet to come" and that the government should not take the chance of having the railroads bog down and fail under private administration as was the case during the latter part of 1917.

Why Congestion Arose in 1917

The outward "failure" of management during 1917 focused upon freight congestion. This condition was activated by a car shortage which did not mean a lack of cars but rather a lack of allocation of these cars at strategic points. The above situation came about for the following reasons: (1) Competitive interests were not curbed; (2) export freight was not controlled at the source; (3) additions and betterments to railroad facilities and equipment were not what they should have been; (4) pooling was retarded because of fear of anti-trust laws; (5) the execution of movement priorities was so poorly administered that the word "priority" lost all significance. Although there were other causes for the failure of voluntary cooperation, the ones mentioned above constitute the principal reasons.

It is to be expected that interested groups should feel that some or all of these reasons might again appear and thereby hamper the effectiveness of private operation, but let's look at the question rationally. In the first place, during the last war there were some railroad men who did not take seriously the Railroads' War Board's appeal to curb competitive practices, and they consequently saw all roads put under federal control. I believe that a different attitude prevails today among railroad executives—a definite realization that if the railroads are to be continued under private management, competitive practices *must* be foregone for the duration. Furthermore, railroad men are also aware of Mr. Eastman and his Office of Defense Transportation and the almost unlimited power which he may exert over all phases of transportation.

As far as export and other traffic is concerned, the administration of this phase has had a complete overhauling, so to speak, since the period of voluntary unification in 1917. In 1939, the Association of American Railroads established a port traffic section within its Car Service Division so that congestion could be eliminated at vital ports by curtailing the practice of holding freight cars in storage as was done during the last war. Shippers Advisory Boards have been formed throughout the country further to alleviate congestion and car shortages. Moreover, there is in operation at the present time an embargo and permit system which is administered either through the Car Service Division, or else through quartermasters depending upon the nature of the goods; under this system prompt unloading is required. Finally in order to further expedite movements of military troops and supplies, the Association of American Railroads voluntarily created the Military Transportation Section with offices in the War Department. The function of this organization is to provide the Army with transportation facilities and also to assist the Quartermaster General in carrying out his duties as traffic manager of the War Department. According to a statement recently released by the War Department, troop movements during the first nine months of the present war have been more than three times the number during the comparable period of World War I, and the movement of the 6,500,000 troops in the nine-month period beginning December 7, 1941, was accomplished "without serious disruption of civilian traffic, although many of them (movements) took place at the peak of the holiday season and were accompanied by enormous loads of military freight." The Army statement attributes the success of these movements in part to "close cooperation between the nation's railroads and the Transportation Corps, Service of Supply."

Improved Facilities Now Available

Concerning additions and betterments, over ten and a half billions of dollars have been spent by the railroads since 1920 in improving railway equipment such as strengthening rails, reducing curvature, and reducing the frequency of hot boxes. These are only a few of the many improvements that have taken place during the past twenty years. During 1941, 1,436 locomotives, 118,371 freight cars, and 548 passenger cars were ordered by the railroads.

Regarding pooling efforts among railroads, it can be said that freight car facilities have been pooled during the last 15 years—at least to a certain extent—and this pooling of facilities has resulted mainly because of the increased traffic which the railroad industry has had to bear with less equipment. Of course, there is no formal apparatus set up at the present time to provide for freight car pooling, but such a formal set-up could be drawn up without much difficulty if better utilization of equipment would thereby be assured.

* This presentation of the facts bearing on this controversial question was drawn to the Editor's attention by Professor William J. Cunningham of Harvard University—the author being one of Professor Cunningham's transportation students, now a second lieutenant in the Q. M. Corps. The original manuscript, written some months ago (and which was a scholarly effort not intended for publication), has been revised with more recent figures by Professor Cunningham, by authorization of Mr. Seiler.

Concerning movement priorities, this was a matter which was out of the hands of private management during the voluntary period of the last war and, therefore, should not be held against private operation.

What the railroads have done to prevent recurrences of 1917 difficulties has already been shown. The main point lies in the fact that the railroads have taken the *initiative* since 1920 and have continually gone ahead preparing for another war which might come and which now has come. One variable factor, however, still remains. The successful outcome of private operation will hinge, in no small way, upon Mr. Eastman's success in coordinating the efforts of government officials, supply manufacturers, labor, and railway management and in securing active cooperation between these various groups.

The Public Interest in Who Runs the Railroads

The reasons for avoiding federal control of the railroads during this war are of far deeper public concern than is generally appreciated. The highest possible efficiency in transportation is a vital necessity to the war program. Federal control in the last war did little enough toward correcting the unhealthy conditions, which were its justification; and federal control now would undeniably worsen, rather than improve, railroad performance.

What is needed in war-time transportation is a maximum degree of co-operation—between railroads, between shippers and carriers, and by government with both shippers and carriers. Experience of the last war shows that such co-operation is obtainable to only a minor degree by the exercise of governmental compulsion.

On the contrary, such co-operation has now been achieved to a high degree of proficiency by *voluntary collaboration,* built up step by step during more than two decades. The ruthless imposition of federal coercion, cutting through this elaborate structure of willing co-operation among men who have mastered the intricacies of their mutual relations, would probably disrupt a mechanism which is producing "miracles."

It is very significant that such an analysis as the one here presented emanates from a source of recognized disinterestedness, intellectual probity and professional competence.—*Editor*

Technological Progress and Operating Record

The next important consideration is the record of technological progress over the past 20 years. There have been many noteworthy achievements. Such achievements clearly bring out two significant points—one, the physical fitness of railroads to handle increased traffic and two, the zestful operation of railway management.

Significant accomplishments include: (1) An increase of 37 per cent since 1923 in tractive capacity per locomotive; (2) an increase of 60 per cent since 1923 in freight train speed; (3) an increase of 100 per cent since 1923 in tons carried per train-hour; (4) a marked decrease in maintenance costs brought about by improved locomotive design; (5) improved track construction; (6) improved signaling systems; (7) improved terminal facilities.

The effect of such progress has been to increase the capacity and efficiency of railroads. For illustrative purposes we may use, as an example, the improvement in signaling. Much progress has been made by the railway industry in the perfecting of automatic signals and centralized train control. Through the use of centralized train control on a single track, for example, road capacity has been increased 30-50 per cent because delays have been reduced.

Voluntary and Coercive Co-operation Compared

The remarkable improvement in the operating efficiency of railroads under present conditions of war over the performance in 1918, the last year of World War I, when the railroads were operated by the government, is indicated by a comparison of significant units of operation. The data for 1942 are taken from the I. C. C. monthly operating statistics for the first seven months. Figures for the same seven months of 1918 are not available to the writer but the data for the first nine months of that year are found in the text of a lecture delivered early this year at the Harvard Business School by Mr. L. K. Sillcox.

Item	Jan.-July 1942	Jan.-Sept. 1918	Per cent Increase in 1942
Net ton-miles per mile of road per day	7,644	5,130	49
Freight train-miles per mile of road per day	7.6	7.6	—
Net tons per freight train	1,074	678	58
Miles per freight locomotive-day	121	65	86
Miles per freight car-day	44.8	25.0	79
Net tons per loaded car	31.0	29.0	7
Net ton-miles per car-day	878	491	79

Outstanding in the foregoing comparison are the following facts:

(1) An increase of 49 per cent in ton-miles was produced without any increase in train-miles as a result of an increase of 58 per cent in the net trainload. The heavier trainload was the result of improved facilities and operating methods and improvements in design and greater power of locomotives.

(2) The net productivity of a freight car, in net ton-miles per car day, was increased 79 per cent, mainly because of an identical percentage of increase in average car-miles per car-day. This explains why the railroads in 1942 produced 49 per cent more ton-miles with about 23 per cent less cars than in 1918.

(3) The production of 49 per cent more ton-miles in 1942 than in 1918 with about 31 per cent less locomotives was brought about by an increase of 86 per cent in locomotive-miles per locomotive-day as well as by an increase in the average tractive capacity per locomotive.

The technological developments and operating achievements of the railroad industry over the past twenty years are important because they indicate the operating ability of railroad management to handle the load and management's desire to retain control. Private control is insured by operating efficiency. The railroads are much better prepared to handle this war load than they were before and during the period of voluntary unification in

1917. Furthermore, when the United States entered the war in April, 1917, hardly any preparations had been going on for increasing transportation production with the result that our entrance into the war found the railroads with a net freight car shortage of 145,000.

When one contrasts this picture with what has been going on in preparation for World War II, it can be easily seen how prepared the railways are for handling present-day war transportation. Approximately a year and a half before our entrance into World War II, the railroads had a net freight car surplus of 150,000. The railway industry under private operation has been preparing itself to handle the war load, and no clearer evidence can be produced than by taking a look at the record showing the achievements over the past 20 years.

When the railroads came under government operation in 1918, the operating record during the ten remaining months of war was far from impressive. Freight movement was increased only 3 per cent. Gross earnings increased 21 per cent, mainly because of the increase in rates but operating expenses increased 40 per cent, the deficit being borne by the taxpayers.

Load and Ways of Bearing It

Opposition to private operation of railroads during this war centers around the fact that the load is certain to become heavier because of the rubber shortage, tanker sinkings, and the increased war production, and that corporate management may fail when called upon to carry this heavier load. Thus far, the railroads have done an excellent job in bearing increased traffic as has been shown, but much more can be done along this line.

In the first place, as far as load is concerned, it is not a question of private versus federal operation. Load handling centers around the number of cars in operation combined with the efficient utilization of such cars. A maximum of cars in operation can be realized (1) if the necessary materials are allocated to car manufacturers and (2) if the repair time on cars already in operation can be minimized. Better utilization of these cars means bearing a heavier load, and much can be done on this phase. There are two factors which must be considered here—time utilization and car utilization. It has been estimated that if the freight car moving time per day could be increased from two and a half to three hours a day, the result would be the same as having 340,000 more cars in operation. Furthermore, if freight cars could carry one more ton, the result would be the same as having 40,000 more available cars. Such a large potential increase in freight car capacity is not being disregarded by the railroads. Moreover, the Shippers Advisory Boards have already succeeded, to a certain extent, in speeding up freight car movement by reducing time for loading and unloading.

During the last war under private administration the Railroads' War Board encountered considerable difficulty because certain obstacles, described at the outset of this article, could not be removed. When the government took over the roads, centralization of authority removed these obstacles. Then what about centralization of authority during this war? The answer to this question has already been implied. The railroads at the time of the last war were in such shape before the war that certain obstacles were inevitable. The picture today, as has been described, is a wholly different one, and government operation cannot be advocated upon grounds of the 1917 experience.

Late in December, 1941, the Office of Defense Transportation was established, with Mr. Eastman as director. In this capacity Mr. Eastman is empowered to coordinate and control, at his discretion, all forms of transportation. The railroad industry has welcomed his appointment and has pledged its support and cooperation in carrying the war to a successful conclusion. Through this agency railway management can hope for assistance in securing (1) vital supply allocations, i.e., materials to manufacturers and cars to the railroad industry, (2) cooperation between roads and military officials, i.e., quartermasters, and (3) cooperation between labor and management.

Undoing Twenty Years' Work

The *Railway Age* has summed up the situation in these words: "The solution of the problem with which railroads, public, and government are now confronted is to (1) exert much more effective pressure than heretofore for the furnishing of adequate materials to the railways and manufacturers of railway equipment and supplies; (2) continue using indefinitely present voluntary cooperative methods of increasing railway service; and (3) resort to compulsion just as little as possible, and only in local and isolated cases in which the cooperating railways and shippers may need, and may concede they need, the backing of government coercion."

As has been pointed out previously, and as even a biased railroad man will have to admit, the outcome of private operation, in the final analysis, will be contingent upon Mr. Eastman's success in coordinating the efforts of military and government officials, supply manufacturers, labor, and railway management and in securing active cooperation between these various groups. But this variable cannot shade the record of achievements over the past 20 years. The rate of efficiency to which the railroads are geared at the present time is very clearly brought out, and operating efficiency is still the keynote of any war program. Such efficiency could not possibly have been realized without *active* cooperation between railroad management and workers, between railroads and shippers, and between all other parties concerned. To anticipate failure of corporate management to do the job adequately and impose a compulsory system of cooperation upon the railways would only tend to undo a job that has been done increasingly more efficiently over the last twenty years.

Answers to Questions On ODT Order No 18.

WASHINGTON, D. C.

THE Office of Defense Transportation has thought up all the questions it is capable of foreseeing, that people might seek answers to, about its Order No. 18 (maximum loading of cars for c. l. traffic) and has answered these questions as follows:

Q. What is the principal requirement of General Order ODT No. 18, Revised?

A. It prohibits carriers with certain exceptions from accepting for transportation any cars containing civilian freight shipments which are not loaded either to the marked weight capacity of the car or to the full visible capacity.

Q. When does the order become effective?

A. On November 1.

Q. What does the order define as "weight capacity" of a car?

A. The capacity in pounds stenciled on the side of the car or shown under the heading "Capacity" in the Official Railway Equipment Register.

Q. Does this mean the same as "load limit" of the car?

A. No. The "load limit," usually also stenciled on the side of a car, usually runs considerably higher than the "weight capacity."

Q. Do the maximum load requirements of Order 18, Revised, apply to shipments loaded on flat cars or in tank cars?

A. No. Flat cars and tank cars are exempted from the order's provisions.

Q. Does maximum loading under this order apply to less-than-carload freight?

A. No. L. c. l. is covered in General Order No. 1.

Q. May a shipment be loaded in excess of the marked weight capacity of the car?

A. The revised order provides for loading with "a quantity of freight which equals or exceeds in weight the marked capacity in pounds."

Q. What is considered loading to the "full visible capacity" of a car?

A. Loading which utilizes all the practicable stowage space.

Q. Is there any provision for the loading of such freight as might be damaged if loaded to maximum?

A. The order specifically states that nothing in its provisions shall be construed as requiring that cars shall be loaded to such an extent or in such a manner as to create a transportation hazard, cause damage to the lading or injury to persons engaged in loading or unloading such cars, or that cars used for freight requiring refrigeration, heat or ventilation be loaded beyond the heating, refrigerating or ventilating capacity of the cars.

Q. Is it the responsibility of the shipper or the carrier to determine whether capacity loading will result in a transportation hazard, damage to the lading or injury to persons?

A. The shipper is charged, under the order, with the responsibility of certifying on the bill of lading the exceptions or the permit covering any failure to load to capacity. The carrier is primarily responsible for determining whether the loading requirements have been met by a shipper. Controversies between carriers and shippers with respect to this phase of the order may be referred to the Office of Defense Transportation for determination.

Q. Are certificates and permits covering shipments subject to investigation?

A. They are, and appropriate action will be taken by ODT where willful violations of the loading requirements occur.

Q. In determining maximum loading which can be accomplished without damage to lading, how can the rule be applied with uniformity to avoid discrimination and competitive disadvantages?

A. The War Production Board's Division of Stockpiling and Transportation is cooperating with ODT in correlating the practice of shippers with respect to safe practicable loading of commodities susceptible to damage by capacity loading. The WPB recommendations will be reviewed by ODT and where these recommendations are consistent with the spirit of Order No. 18, Revised, they may be published as special directions fixing uniform standards for the loading of various commodities.

Q. If a shipper orders a car of particular capacity, and the carrier furnishes a larger car, must the shipper load to the larger car's capacity?

A. Yes, unless a special permit is used.

Q. How may such a permit be obtained quickly in the event the shipper finds it impossible to load to the larger capacity?

A. The order permits the chief operating officer or the division superintendent of the initial carrier to issue such permit in cases where unusual circumstances warrant such action.

Q. How is the order to apply on shipments loaded at points not equipped with scales, and found to be "light" at the scale station?

A. Movement from the loading station by the carrier constitutes "acceptance," and such car should not ordinarily be held at the scaling station or returned to the shipper for completion of the load.

Q. Will the loading of commodities to the minimum weights required by the tariff to obtain carload rates be considered as meeting the requirements of the order?

A. No.

Q. In cases where consignees are limited by government regulation as to the amount of inventory they may carry in stock, will such restrictions bring shipments of materials to these consignees under the order's exemptions?

A. Yes, but appeals should be made to the government agency responsible for the restrictions for such modifications as will permit compliance with the order.

Q. Do the order's provisions apply to a shipment originating at a point in Canada?

A. No. But capacity loading must be observed on shipments originating in the United States and destined to Canadian points.

Q. Are any provisions made in the order for consolidation of shipments?

A. Yes. It is possible for not more than three shippers to unite in loading two or more cars with the same different commodities in order to make up the maximum load. These cars may be consigned to not more than three consignees at from one to three destinations, in the direct line of movement.

Q. In the event such consolidated shipments are loaded or unloaded on a switching road, who assumes the switching charge?

A. This must be determined by the applicable tariff provisions.

Q. Is it permissible for a carrier to accept a partially loaded car from a shipper and then fill out the load with l. c. l. cargo to break bulk at the destination of the carload shipment?

A. No, unless a special permit is issued by ODT to cover such move.

Q. Shall the shipper or the rail carrier apply to ODT for special or general permits?

A. The shipper must apply, giving full details as to why the provisions of the order cannot be complied with. The permit, if issued, is mailed to the shipper but is directed to the railroad. If the carrier is the shipper, the carrier must apply.

Q. Where two or more cars are used in transporting a single consignment of freight moving all-rail, is it necessary that each car be loaded to the extent provided by the order?

A. Yes, unless a special permit has been issued.

Q. Will the fact that certain commodities are marketed and distributed on the basis of trade units developed over a long period of time justify exceptions to the loading requirements?

A. No, it is expected that there must be considerable readjustment in marketing practices which will cause inconvenience, extra expense and even some hardship, but these factors must necessarily be subordinated in the interest of the accomplishment of the essential objective of the order.

Q. What are the general exceptions to the order?

A. The general exceptions are:

(a) Freight shipped by or consigned to the Army, Navy, Coast Guard or Marine Corps; freight consisting principally of airplanes, armaments, guns and military vehicles including tanks and processed parts thereof, and marine equipment consigned to the Maritime Commission or the War Shipping Administration;

(b) Tariff minimum carload shipments of commodities which have been allocated or limited by a regulation of any government agency in such quantity as to preclude shipment of an amount sufficient to meet the maximum loading requirements;

(c) Shipments of explosives;

(d) Freight moving in accordance with "clean out" or "remnant rules," or "gathering rates and rules" in applicable tariffs;

(e) Carload freight moving to intermediate points between origin and destination for consolidation of shipments or for stopping in transit to complete loading or for partial unloading;

(f) Freight loaded into cars which cannot be interchanged;

(g) Freight to be unloaded at points on railroads in Cuba;

(h) Livestock and other shipments of live animals or poultry;

(i) Cotton or cotton linters in bales;

(j) Material and equipment loaded by a carrier to be moved over its own lines only;

(k) Carload shipments when authorized by or made in accordance with any special permit issued by the chief operating officer or division superintendent of the initial carrier where, because of unusual circumstances, such officer believes compliance with the order would result in inefficient use of cars or motive power, or where such permit is required for reasons of military necessity.

Railroads-in-War News

New WPB Critical Materials Control

Railroad equipment allotment to follow "adjustment" of needs to supplies

The new Controlled Materials Plan (CMP) adopted by the War Production Board to adjust requirements for critical materials to the available supply will, according to WPB Chairman Donald M. Nelson, "insure the railroads in getting their proper proportion of materials essential to do their job" at the time they are needed.

The new plan will become fully operative next July 1, but it will gradually become effective in different industries before then as they are ready for it, replacing the present priority system, and Mr. Nelson mentioned the railroad industry as one that would "go ahead very fast" under the new control mechanism.

The critical materials to be controlled under the new plan from the start are aluminum, copper, and carbon and alloy steels. It is expected that other materials may be added to this list later, but these three are regarded as key materials, the allotment of which will in large measure establish control over all industrial production. Mr. Nelson declared that a "complete change in the whole economy" of the country is involved in the program, and he emphasized his belief that the new CMP is the "most important single thing the WPB has done to increase production" of materials needed to win the war.

The general nature of the new plan was explained by Mr. Nelson at a special press conference on November 2, in which Ferdinand Eberstadt, WPB vice chairman in charge of program determination, and Leon Henderson, in his capacity as director of the WPB Office of Civilian Supply, were also active participants. Detailed regulations and instructions intended to effect practical application of the plan will be announced later.

As far as the three affected critical materials are concerned, the new plan succeeds other distribution systems by which WPB has sought without complete success to balance supply and demand. According to official interpretations of the situation, priorities and the Production Requirements Plan have failed to bring about such a balance because they have worked on a "horizontal basis," that is, control at each level in the materials field has been attempted without adequate consideration of the relationships of the different levels.

The CMP program, on the other hand, is based on a "vertical allotment" method of distributing materials, in which seven "Claimant Agencies" become in effect the distributors of all the available supply of the three critical materials, allotting their shares of the supply to prime contractors producing essential goods, who in turn divide these allotments with their suppliers and sub-contractors. The process of division may be carried on as far as the chain of subordinate contractors extends in an individual industry, arriving in the end to the suppliers of the raw materials.

The seven Claimant Agencies set up under the plan are the Army, Navy, Maritime Commission, the Aircraft Scheduling Unit (in which is consolidated material control for all aircraft production), Lend-lease, Board of Economic Warfare, and Office of Civilian Supply. The latter office, which is the claimant agency for all producers not otherwise represented—including producers of railroad materials and equipment—will assemble its estimates of requirements with the aid of the various WPB industry branches.

Mr. Nelson made it clear that while the flow of materials under wartime conditions must be controlled by the urgency of need, the civilian economy still must function on an efficient level in order properly to back up production of the essential materials of war. "The railroads," he said, for example, "must have what they need in order to transport war materials," and it is the function of the Office of Civilian Supply to determine the minimum levels at which the whole civilian economy must operate to yield the greatest output of essential military materials.

According to Mr. Henderson, the more essential "civilian" products, including railroad equipment and materials, will get relatively larger allotments of the controlled scarce metals, but, in his words, his agency, in programming the quantities needed of "end-products"—railroad cars, for example—will "not sell tickets for more seats than there are in the theater."

To give the WPB industry branches "greater strength" to handle the job of informing the Office of Civilian Supply on the resources and needs of each industry, Mr. Eberstadt's office of program determination is reorganizing them, it was announced on November 3. To as great an extent as possible, each industry branch will follow a similar pattern. Many of the functions of the office of the Director General for Operations, Ernest Kanzler, will be "decentralized and assigned to branches, making them responsible for all operational phases such as the execution of programs, policies and procedures established for the resources assigned to branches. Branches will not, however, be

(*Continued on page 745*)

Slower Passenger Schedules Coming

As fall freight peak is passed crowded and delayed trains concern AAR and ODT

Directors of the Association of American Railroads, meeting in Washington, D. C., on October 30, were in general agreement that the peak has been passed in freight traffic movement this year, though the decline from the peak point is not expected to be as pronounced as in normal years. The passenger traffic situation was explored rather thoroughly in the meeting, and a statement on this subject was issued after it was concluded by J. J. Pelley, president of the Association, in which he said, "the job of the railroads is to keep the trains running and to furnish a service which today, with all the difficulties that beset all forms of transportation, is more essential than ever. To do that, they are striving to get the fullest use out of each passenger car and locomotive, by such adjustments of schedules and services as are found practicable in each case."

It developed that the Association and the Office of Defense Transportation are studying from various angles proposals for slowing down passenger and freight train schedules, and further moves in this direction are expected, in addition to actions that already have been decided, such as lengthening by one day the Chicago-Pacific Coast freight schedules, as announced in *Railway Age* last week. Such adjustments in freight schedules are sought primarily, it is said, to secure maximum use of motive power, as on slower schedules fewer helpers are required in many instances, and in others greater tonnage can be handled with the power now assigned.

Slower passenger schedules, on the other hand, are generally expected to result from a realistic recognition of current conditions, as many roads have not been able to maintain very satisfactory records in on-time performance, for reasons closely connected with the wartime expansion in business. While the motive power question again is involved in many prospective readjustments, station delays, both those resulting from heavier head-end traffic and those due to slower loading and unloading of passengers, are said to be the chief cause of late trains, as existing schedules generally were prepared when traffic was much lighter. Revised schedules are expected to reflect more closely current operating conditions.

While the ODT is consulting with railroad representatives in developing schedule revisions, there is no evidence that it is unduly concerned over current conditions.

In fact, ODT Director Eastman informed railroad officers who attended the A. A. R. meeting that the railroads now are the least of his worries.

Asked last week about published reports to the effect that ODT had "decided definitely against wartime rationing of civilian travel," Mr. Eastman said that such a statement was not a valid inference from his recent remarks on the subject. All of his thinking about the matter, he said, has supported the view that travel rationing looks like an impossible task; but he anticipates, nevertheless, that he may have to attempt the impossible, at least in some local situations. The ODT director pointed out that no country at war has established priorities on rail travel; and he referred to a recent British announcement revealing that the idea has been abandoned in Great Britain on the triple grounds of complexity, claims upon manpower for administration, and inconvenience and delay to those who must travel on necessary business.

The railroads meanwhile, Mr. Pelley's statement suggests, propose to accommodate necessary civilian travel to the best of their ability. A. A. R. advertising in the near future will emphasize the passenger situation, and the part the civilian can take in postponing the curtailment of his travel privileges. "Much civilian travel is on business directly or indirectly essential to the prosecution of the war," the statement points out. "Much of it is about imperative personal affairs. Much of it is part of the proper recreation and relaxation which the people of the nation must have if the war effort is to progress as it should. But much of it, also, is unnecessary, and, if need be, can be dispensed with without undue hardship.

"Each traveler knows what his own mission is and is able to exercise his own discretion as to the necessity or importance of his trip. Certainly the railroads cannot determine that for him, and have no wish to do so. . . . There will be times and places where it will not be possible to provide the sort of accommodations which all travelers will desire. There will be times and places, even, when it will not be possible to provide a seat for every passenger who wants to travel.

"There are some who must travel, and must travel on a particular train on a certain day, if the war business of the nation is not to be impeded. There are others who have more latitude, and who may be able to choose the train they are to ride, or the day they are to go. They can plan their trips for the less-crowded days, and can pick the least congested trains. It is our hope and belief that those who can, will do this because it is the helpful, the patriotic and the sensible thing to do."

Bulletin Lists Training Aids

The Office of Defense Transportation's Division of Transport Personnel, has prepared a bulletin describing the services of six government agencies which are prepared to assist the transportation industry in meeting the manpower shortage. Listed in the bulletin are facilities of the Civil Aeronautics Administration, the War Shipping Administration, and four agencies supervised by the War Manpower Commission. The latter are the Apprentice Training Service, the Training Within Industry Division, and two activities of the Office of Education, Engineering, Science and Management War Training and Vocational Training for War Production Workers. The bulletin is available from the ODT Division of Transport Personnel, Washington, D. C.

Promoted by ODT

H. H. Kiernan who has been an administrative officer in the Division of Railway Transport, Office of Defense Transportation, has been promoted to executive assistant to Director V. V. Boatner of that Division. Before coming to ODT, Mr. Kiernan was associated with the Gulf, Mobile & Ohio.

Certificate Applications Due

Reminding operators of commercial vehicles that after November 15 no such vehicle may lawfully operate without a valid Certificate of War Necessity, Director Eastman of the Office of Defense Transportation on October 27 warned that applications for certificates should be mailed not later than November 2, as they must be received in time for the certificate to be issued before the effective date.

WPB Revises Steel Restrictions

Revised iron and steel conservation order M-126, announced by the War Production Board November 5, includes some minor changes that affect the use of iron and steel, including stainless steel. The use of iron and steel is entirely prohibited for a long list of new items, but an exception is provided for the delivery of roofing and siding "for the maintenance and repair of railroad freight cars, street cars, and buses." Lead is no longer included in the list of materials that may not be substituted for iron and steel.

ODT Bus Orders

Special Order ODT B-28 has been issued by the Office of Defense Transportation to coordinate bus operations of the "B & W" line and the Peter Pan Lines, operating between Boston, Mass., and Springfield via Worcester. The order reduces from eleven to seven the number of round trips operated daily by the two lines.

By Special Order ODT B-29 the Peoria-Rockford Bus Line and Midland Coach Lines are authorized to coordinated operations between Milwaukee, Wis., and Lake Geneva, so as to effect a monthly saving of 6,840 bus miles.

I. C. C. Gives Precedence to ODT and Price Control Orders

In order that carriers and tariff agents may comply freely with the requirements of the recently-enacted "anti-inflation" law, under which 30 days notice must be given of increases in rates and fares, the Interstate Commerce Commission has issued blanket orders authorizing supplements to approved tariffs postponing their effective dates, and continuing the life of tariffs so superseded, for a sufficient time to conform to the requirements of the law and executive orders giving it effect. Separate orders were issued to apply to passenger fares of rail, motor and water carriers, freight charges of motor carriers, and rail freight rates. Commission rules covering tariff circulars are waived by these orders to the extent necessary to allow such supplements to be issued.

Another blanket order of the Interstate Commerce Commission, Division 2, suspends "in so far and so long as they are in conflict with the provisions" of ODT General Order No. 18 Revised—the so-called maximum carloading order—conditions embraced in any of the commission's fourth section orders which are in conflict with ODT directions allowing transit privileges.

Railroads Handle Record Number of Cars in One Day

On October 23 freight movement on Class I railroads hit a new high mark for the current wartime period, according to an announcement from the Office of Defense Transportation. On that day a total of 1,496,122 loaded and end empty cars were handled in 24,813 trains by the 108 railroads reporting.

These railroads received from connections and other lines on that day 654,280 loaded cars, as compared with the previous record of 644,038 made on October 9. They delivered to connections and other lines 651,346 loaded cars, as compared with the previous record of 638,219, made on October 2.

I. C. C. Service Orders

Division 3 of the Interstate Commerce Commission on October 30 issued Service Order No. 93, which extends until further order the provisions of Service Order No. 86, by which railroads serving Arizona and California are required to place so-called giant-type refrigerator cars for loading without restrictions or rate penalties for the use of such cars.

By Service Order No. 94, issued and effective on November 2, Division 3 of the Commission has directed the Denver & Rio Grande Western and the Western Pacific to divert via the Union Pacific from Ogden, Utah, or Salt Lake City coal originating on or routed by the two roads first named and consigned to points in Washington and Oregon.

Would Eliminate Cross-Hauling of Non-Metallic Minerals

R. J. Lund, chief of the War Production Board's Miscellaneous Minerals Branch, this week told a meeting of the recently-formed Non-Metallic Minerals Transportation Industry Advisory Committee that "cross-hauling must be eliminated voluntarily" if that industry is to avoid "serious impairments of supply through inadequate transportation facilities." Mr. Lund was thus quoted in a November 3 WPB press release, which went on to say that the committee members recognized that "many opportunities existed for them to conserve transportation facilities, though certain problems would require considerable study."

Among other suggestions was that calling for use of box cars instead of open tops, but it was pointed out that "a very small percentage of these minerals is now shipped in open cars." Also, as the WPB announcement put it, "the surplus of box

cars is so small that little hope exists that the open top shortage can be alleviated by this means." Meanwhile, the situation as to truck transportation "is growing critical," with poor mine roads causing "unduly rapid depreciation and damage to tires and trucks." With respect to water transportation, "the committee was not optimistic," principally because of the inaccessibility of water to mines.

As noted in the *Railway Age* of October 31, page 705, Director Eastman of the Office of Defense Transportation told his October 22 press conference of large savings in the elimination of cross-hauling which have already been achieved by several industries working voluntarily in cooperation with WPB industry branches.

Union-Management Conference on Permanent Basis under ODT

A permanent joint railway labor-management conference was organized under Office of Defense Transportation auspices on October 29, Director Eastman has announced. Its first formal meeting is scheduled for November 26, and it will meet thereafter on the last Thursday preceding the last Friday of each month, unless Mr. Eastman calls a special meeting at another time.

The purposes and membership of this conference were outlined in *Railway Age* of October 10, page 575. In addition to the six railroad executives and six labor representatives, it will include Otto S. Beyer and V. V. Boatner of the ODT, and Mr. Eastman will serve as chairman. The problem of railroad manpower and training will be the first major topic to be considered by the conference at its November meeting.

Labor Executives Association "Solves" Manpower Problem

In a statement issued November 2 the Railway Labor Executives' Association proposes a 12-point program to meet the national manpower problem which, it asserts, will, if put into operation, "solve our manpower problem and meet our national requirements without resorting to compulsion and abandonment of free labor, free enterprise and democratic processes."

The proposed program follows suggestions attributed by the statement to War Manpower Commission and ODT "representatives" that action be taken to "freeze" railroad track labor in 12 western states for the duration, and also certain requests for permission to "import" Mexican labor.

After expressing opposition to these measures, the statement suggests that this national problem should be met by a national program, and not with "piece meal" solutions. Among proposals offered in the Association program are a national manpower census, an increase in hours worked per week in war industries, reduction of labor turnover by establishing fixed wage scales in war industries, mobilization of additional workers, and "universal establishment of labor-management committees."

Referring specifically to the "freezing" of track labor, the statement asserts that "the railroad manpower difficulties we are now experiencing can be readily overcome by payments of decent wages, adjusting overtime rates and working conditions in this industry to national standards."

Special Direction ODT No. 18-1 Superseded by No. 18-3

Specific maximum loading regulations for a wide variety of bulk and non-bulk freight have been issued by the Office of Defense Transportation to be effective from November 1. The regulations are embraced in Special Direction ODT No. 18-3, which takes the place of Special Direction No. 18-1, issued along with the revised version of General Order No. 18 and outlined in *Railway Age* of October 17, page 623. In addition to the general groups of commodities listed in Special Direction No. 1, the latest regulations include provisions for wallboard, prepared roofing materials, canned goods, oysters, butter, eggs, potatoes, apples, pears, cheese, frozen fruits and vegetables, cranberries, onions, lettuce, carrots, grapes and bananas. Loading requirements which will satisfy the purposes of the general order are stated for each of the commodities listed in the special direction.

Railroad Requisitioning During Year Ended October 16

Reporting last week to Congress on the first year of operations under the act authorizing him to requisition property required for national defense, President Roosevelt submitted data which show that materials covered by approved requisitions have included 13,647,595 feet of relay rail, 33,590 tons of "usable railroad track material," and 109 pieces of railroad equipment.

The equipment and 1,898,887 feet of rail and 3,270 tons of track material were requisitioned by the War Department, while the bulk of the rail (10,201,668 feet) and track material (27,004 tons) was requisitioned by the War Production Board. Other requisitioners were: Navy Department, 1,547,040 feet of rail and 3,216 tons of track material; Maritime Commission, 7,088 feet of rail.

"The amounts shown," the President's report said, "represent actual quantities seized except with respect to a few requisitions such as those covering certain requisitioned railroad lines where actual quantities and weights are not available at this time. In such cases, completion of demolition of the requisitioned property frequently requires several months and the amount reported is the amount which was authorized to be seized under the requisitioning action or the best available estimate of the amount to be obtained from the seizure."

* * *

Plenty of Steam After 67 Years

Universal Pictures now owns Number 5, built in 1875 by Baldwin for the three-foot gage Carson & Tahoe Lumber & Fluming Co.

Reed on New ODT Procedures for Rail-Line Seizures

Senator Reed, Republican of Kansas, last week cited the Office of Defense Transportation's new plan of giving interested parties an opportunity to protest before rail lines are certified to the War Production Board for requisitioning as evidence that "constructive work" has been done by the Senate interstate commerce subcommittee which investigated the matter. The probe was in response to a resolution introduced by Mr. Reed.

Hearings before the subcommittee, which has not yet made a report, were covered in the *Railway Age* issues of October 10 and 17; while the new ODT procedures were outlined in the issue of October 31. Senator Reed had the ODT announcement published in the October 29 issue of the Congressional Record, at the same time addressing the Senate briefly to recall what he interpreted at the time as a suspicion on the part of Majority Leader Barkley, Democrat of Kentucky, that the resolution would cause "some trouble."

"So far from trying to cause trouble," Mr. Reed said, "we have done a constructive work. The WPB and ODT are now modifying their procedure." Meanwhile Mr. Barkley had insisted that he had not been suspicious; he was merely seeking information. After receiving the information, he went on, "even if I had any suspicion, it was dissipated."

New WPB Committee to Evaluate Labor Requirements

A Labor Requirements Committee has been organized by the War Production Board to aid in co-ordinating that agency's activities with those of the War Manpower Commission, WPB Chairman Donald M. Nelson announced last week. The chairman of the new committee is Ferdinand Eberstadt, WPB vice chairman in charge of program determination, and its vice chairman is Carl J. Goff, assistant president of the Brotherhood of Locomotive Firemen & Enginemen. Altogether ten government agencies are represented on the committee including the Office of Defense Transportation, represented by Edwin M. Fitch, assistant director, Division of Transport Personnel.

The functions of the new committee, the announcement indicates, are to keep the War Manpower Commission informed on

the scope of the war supply program and its effect on labor requirements, to make recommendations as to the relative importance of industries as a basis for the establishment of labor priorities, and to consider from the standpoint of manpower facilities the feasibility of programs submitted to the office of program determination. When essential labor requirements cannot be met in any area, the announcement adds, a system of labor priorities will be administered by WPB through local labor requirements committees under this new WPB committee.

Floods Retarded Oil Movement in October 24 Week

"Heavy floods in the Potomac river valley and throughout southern Virginia retarded the tank car movement of petroleum and dropped shipments to 759,233 barrels a day during the week ended October 24," said Petroleum Coordinator Ickes' latest report of the east-coast oil movement. The foregoing, down 9.4 per cent from the previous week, is the lowest daily average reported since the week ended July 18.

Likewise did Mr. Ickes, in his other role of solid fuels coordinator, attribute to the floods the October 24 week's drop in all-rail coal shipments into New England. The shipments totaled 5,557 cars or approximately 305,635 tons, as compared with 6,307 cars or about 346,885 tons for the week ended October 17.

Another factor in the oil-movement decline, according to Deputy Petroleum Coordinator Davies, was the temporary return to service in the Middle West of approximately 2,000 tank cars which had been in the east-coast service.

Meanwhile, the Office of Defense Transportation has issued two statements—one containing "an appraisal of factors affecting the rail movement of petroleum into the East and an inventory of results under General Order No. 7, regulating the operation of rail tank cars," and the other announcing the formation of a committee to investigate tank-car maintenance facilities and practices and to "make recommendations for a fuller utilization of those facilities."

In the former connection, the press release said that "ODT officials" had expressed an opinion that "the railroads would continue to transport to the East a daily volume of several hundred thousand barrels of petroleum which formerly moved by tanker." Whether the traffic can be increased beyond the previous peak of more than 850,000 barrels a day "is impossible to predict." The future movement, the officials were said to have explained, "depends upon the net result of certain factors which may hamper the movement and several steps which are being taken and planned to maintain the flow."

Listed among the hampering factors were the approaching winter weather which is expected "to complicate further the problem of motive power"; the demands on the tank-car supply for the transportation of other war-essential liquid materials; and "the depletion of the car supply by the grinding pace at which the cars are operated and by the failure to obtain replacements and make adequate repairs."

"Against these adverse factors," the statement went on, "ODT officials balanced these measures: ODT's efforts to increase the proportion of petroleum moving to the East in 60-car, solid-train lots, and steps by the Office of the Petroleum Coordinator to concentrate the destinations of these solid trains in a few Eastern terminals; ODT's order requiring the substitution of larger tank cars for the smaller ones in the long haul; and the ODT's recent steps to effect the return movement of cars immediately after they are unloaded."

Under General Order No. 7, which diverted short-haul traffic to trucks, the statement continued, approximately 9,000 tank cars have been released for the long-haul service. Moreover, Exception Order 7-3, which was designed to divert the large-capacity cars to the long hauls, is credited with having increased the aggregate capacity of the equipment used on such hauls. As noted in the *Railway Age* of October 24, page 668, Deputy Petroleum Coordinator Davies listed this ODT order as one of the reasons for the drop in the oil movement during the week ended October 10, saying that the smaller cars withdrawn had not been replaced by the larger ones.

The ODT statement said that this is now being prevented by the issuance of temporary permits allowing the smaller cars to remain in service in instances in which they could not be immediately replaced by large cars. Meanwhile, the increase in the total capacity of cars in the Eastern service will have the effect of adding "more than 369 tank cars of a capacity of 210 barrels"; during September, "1,172 larger cars which had an aggregate capacity of 263,714 barrels were substituted for cars which aggregated 186,187 barrels' capacity."

The maintenance committee is composed of two representatives each of the tank car lessors, shipper owners, and the Association of American Railroads, and one member each representing ODT and OPC. A. V. Bourque, chief of the Section of Tank Car Service, is the ODT representative; while the A. A. R. representatives are V. R. Hawthorne, executive vice-chairman of the Mechanical Division, and W. E. Callahan, manager of the Tank Car Section, Car Service Division. The committee will "survey the physical condition of tank cars transporting petroleum into the East and determine the adequacy of repair facilities, considering the location of shops, class of repairs, supply of labor, availability of materials and other factors." Also, it will report on "current methods of inspection and running repairs," making recommendations for improvements; and it will give consideration to "the possibility of establishing general repair shops or shops for light and medium repairs at or near major points of origin and destination."

Eastman Authorizes Two Additional New York-Florida Trains

Two additional daily New York-Florida trains, which are to be extra sections of regularly-scheduled trains now in operation over different routes, were authorized on November 3 by Director Eastman of the Office of Defense Transportation. The authorization came in special permits to five different railroads, issued under the provisions of General Order ODT No. 24 which froze all passenger train schedules as of September 26.

Under the permits, one train will operate via the Pennsylvania, Richmond, Fredericksburg & Potomac, and Seaboard Air Line; while the other will be routed P. R. R.-R. F. & P.-Atlantic Coast Line-Florida East Coast. The extra sections must include one or more coaches and one or more sleeping cars. Moreover, they are not to be run when the motive power, cars and other facilities used in their operation are needed for the transportation of troops or war materials. The permits further provide that the operation of the sections shall not be permitted to delay the continuous movement of "traffic essential to the successful prosecution of the war."

Director Eastman asserted that, in granting the permits, ODT was "in no way sanctioning tourist travel-as-usual to Florida resorts." He added that "all pleasure travel to and from Southern points must be dispensed with for the duration"; for the railroads "have neither the locomotives nor the cars to provide the resort visitor with travel accommodations." Thus ODT "has found it necessary to reject an appeal made by the railroads, supported by the Governor of Florida and other interested citizens, for additionally scheduled train service that would permit at least a measure of resort travel."

It is therefore the "concentration of Army, Navy, and industrial establishments in the Southern areas," with resultant increases in travel that became "too heavy for the regularly scheduled trains" to handle conveniently which prompted ODT to act. Mr. Eastman is "not unmindful" of the many northerners who maintain winter homes in Florida, and he hopes such people will be able to find travel accommodations among those he has authorized.

New WPB Critical Materials Control

(*Continued from page 742*)

responsible for policy, planning, co-ordination and supervision phases."

Industry Advisory Committees will be assigned to each branch to maintain contact with industry, and representatives of each of the seven Claimant Agencies and of "labor" also will be assigned to each branch. In general, all "material, product, facility or industry branches" will be set up in this way. They will get "advice" from industry on "methods of increasing supply where shortages exist, of controlling the distribution of resources and of eliminating non-essential uses of resources." Representatives of government "claimants" will submit requirements and "advise and assist" in apportioning resources allotted by the committees supervising policy, planning and co-ordination.

Functioning of the new CMP through the Office of Civilian Supply will follow in a general way the pattern of present operations, Mr. Henderson explained, but three new factors have been introduced: Bills of materials, allotments numbers, and inventory control. Under the new plan prime contractors will prepare and submit a breakdown of all materials required for

the "end-products" they are producing. This breakdown will constitute a bill of materials which will specify what materials are required and when they must be received.

All bills of materials will be assembled periodically by the Office of Civilian Supply and the other six Claimant Agencies and submitted to the WPB Requirements Committee, indicating separately requirements for production, for construction, and for maintenance and operation. It is intended that such programs shall be worked out and requirements submitted on a quarterly basis for a period of 18 months in advance. Requirements for construction, including industrial machinery and equipment, will be handled through a special channel, the Construction and Facilities Branch of the Office of Program Determination.

The assembled statements of requirements will pass through Controlled Materials Branches—one for each of the materials allotted under the new plan—which will "make the necessary adjustments" to bring requirements into balance with available supplies. When the programs of the Claimaint Agencies have been adjusted and approved, the vice chairman in charge of program determination will, with the advice of the Requirements Committee, of which he is chairman, allocate the available supply of the controlled materials to the seven Claimant Agencies. These agencies then will distribute these allotments among their prime contractors by means of allotment numbers, "which will constitute a right to receive delivery." These allotment numbers will be passed on from contractor to subcontractor to supplier as necessary.

Materials other than the three controlled materials will continue to be distributed through the priorities system unless the CMP is extended to cover them later. Each producer receiving an allotment number will receive also a preference rating for obtaining other materials, and these preference ratings will "resolve conflicts" in the production and delivery of manufactured articles.

The first bills of materials will be assembled by the Claimant Agencies between now and January 1, so that they can at that time "program the quantities of end-products"—such as freight cars—most urgently required and submit a consolidated estimate of materials needed to the Controlled materials Branch. On February 1 the Requirements Committee will allot controlled materials to each Claimant Agency for the second quarter of 1943. Distribution of allotments through contractors and suppliers will follow, and by March 15 users will have placed orders for delivery in April and later months, according to the CMP timetable.

In addition to the controlled materials, the scarce materials specified for inclusion in bills of materials include such metals as zinc, tin, nickel and cadmium, and also a variety of raw materials, including rubber, cordage fibers, rayon, mica, nylon, and wood.

Separate classifications are provided for many shapes and forms of these scarce and controlled materials, so that the steel product classification includes among others rails and track accessories, steel castings, wheels and axles, structural shapes, and sheets and plates. Code numbers are specified for including each of this large variety of shapes and qualities of material in the bills of materials required from each producer.

Materials and Prices

Following is a digest of orders and notices of interest to railroads issued by the War Production Board and the Office of Price Administration since October 23.

Auto parts—Automotive equipment, such as hoists, cranes, winches, tanks, bodies, etc., are considered parts for the purpose of General Order ODT No. 21 prohibiting the purchase, installation or mounting of any part upon a commercial motor vehicle after November 15, without having a Certificate of War Necessity for the vehicle on which the part is to be installed or mounted, according to an interpretation issued October 20. The order is equally binding upon the person who transfers, mounts, installs or delivers the part and requires him to see that the purchaser presents a valid certificate for the vehicle for which the part is intended.

Copper—Supplementary Conservation Order M-9-c-4, as amended October 27, prohibits the installation in or connection to a structure or system of any copper or copper base alloy pipe, tubing, fittings or building material. However, any person may install copper or copper base alloy pipe, tubing or building material in an aggregate amount not in excess of 25 lb. for each necessary repair of a structure or system, provided that the material is used to repair or replace copper or copper base alloy pipe, tubing or building material and was in the possession of the person owning the structure on or before October 26. Any person may also connect, for purposes of repair and maintenance, copper or copper base alloy fittings to copper water tubing already installed, and may connect, for any purpose, copper or copper base alloy fittings to a water supply or distribution system outside of a building. Any person may also install the material upon the written authorization of the specific installation. Applications for authorization may be made by letter setting forth the reasons why the person believes such material should be installed in or connected to a building.

Linseed oil—An amendment to Conservation Order M-71, issued October 27, permits wholesale dealers in linseed oil to sell to persons other than manufacturers no more than 80 per cent of the amount sold during the base period, and enables any person to sell linseed oil without restriction to the Army, Navy or Lend-Lease, and reduces the amount he may deliver to others to 70 per cent—the purpose of the amendment being to increase the supply of fats and oils.

Lumber—Limitation Order L-218, effective October 29, prohibiting producers of Douglas fir lumber to sell, ship or deliver it except for the account of the Procuring Agency of the Corps of Engineers of the United States Army or as allocated to specific persons, extends to sawed lumber (except shingles or lath) of any size or grade, whether rough, dressed on one or more sides or edges, dressed and matched, shiplapped or worked to pattern of the species produced west of the Cascade Mountains, but not including No. 3 boards, No. 3 dimension or No. 3 timbers or any grade of factory or shop lumber, and not including plywood, veneer or used lumber. The Director General for Operations may direct the specific manner and quantities in which delivery may be made to particular persons, and direct or prohibit particular uses of Douglas fir lumber or the production of particular items of Douglas fir lumber. No preference rating will have any force or effect with respect to deliveries of Douglas fir logs, or deliveries, by producers, of Douglas fir lumber. Any person affected by the order who considers that compliance would work an exceptional and unreasonable hardship may appeal by letter to the Chief of the Lumber and Lumber Products Branch, WPB, Washington, D. C. This order was briefly reviewed in the Railway Age of October 31.

Amendment No. 5 to M-208, effective October 29, removes sales and deliveries of Douglas fir lumber subject to Limitation Order L-218 from the restrictions of M-208, which regulates softwood lumber.

Steel reinforcing—Schedule 1 to Limitation Order L-211, issued October 23, restricts the producing, fabricating or delivering of concrete reinforcement bars and spirals except in the sizes and shapes set forth in Simplified Practice Recommendations R26-42 and R53-32 respectively of the National Bureau of Standards, and restricts the civilian specifications for billet steel bars for concrete reinforcement to ASTM-A15-39, covering structural, intermediate and hard grades; rail steel bars for concrete reinforcement to ASTM-A16-35; axle-steel bars for concrete reinforcement, as amended by Emergency Alternate Provisions EA-A160 adopted April 6, 1942, to ASTM-A160-39, covering structural, intermediate and hard grades; cold-drawn steel wire for concrete reinforcement to ASTM-A82-34; fabricated steel bar or rod mats for concrete reinforcement to ASTM-A184-37; and welded steel wire fabric for concrete reinforcement to ASTM-A185-37.

Steel wheels—Schedule 2 to Limitation Order L-211, issued October 23 and effective 60 days later, restricts production, fabrication or delivery of steel wheels to sizes and shapes set forth in the Association of American Railroads, Tables 1 and 2 adopted April 29, 1942, and Table 3 adopted April 29, 1942, and revised September 1, 1942, which form a part of Specification E-M-107-42 adopted April 16, 1942, and in American Society for Testing Materials Specification A25-41, as amended by Emergency Alternate Provisions EA-A25a adopted August 24, 1942. Exceptions are steel wheels or steel tires which were produced or fabricated before the effective date of the order or which were processed so that conformity to the provision is impracticable or which, because of errors in production or fabrication, do not conform to the inspection or test requirements of the specifications if the requirements are waived by the purchaser. Each person owning or possessing steel wheels or steel tires excepted from the provisions must retain records for inspection. Multiple wear wrought steel wheels must conform to specification AAR-E-M-107-42; one-wear wrought steel wheels to AAR-EM-103-42; heat treated multiple wear wrought carbon steel wheels to AAR-E-M-123-42; and multiple wear wrought steel wheels, as amended by emergency alternate provision EA-A57 adopted June 22, 1942, to ASTM-A57-39. Specifications for steel tires for locomotives and cars for domestic service must conform to AAR-E-M-106-42, classes A, B and C; while tires of heat treated steel must conform to AAR-E-M-124-42, classes A, B, C and D.

Prices

Buildings—Maximum Price Regulation No. 251, issued October 31, governing maintenance services and sales of building and industrial equipment and materials on an installed or erected basis, establishes ceilings equivalent to those generally in effect during March, 1942, plus adjustments for increased labor costs between March 31 and July 1. The order covers all construction and maintenance services and sales in which builders, installers and erectors furnish building or industrial equipment or materials and labor and services required for actual construction, installation or erection. The regulation aims to maintain the March, 1942 price level with some exceptions, furnish a workable means for determining maximum prices at that level and maintain a constant check on prices of construction under control of other government agencies.

Freight car materials—Amendment 1 to Maximum Price Regulation 174, effective November 2, makes clear that sales by car builders to railroads of partially or wholly fabricated car parts, usually produced and sold in such form for use in repairing and maintaining railroad freight and passenger cars, are subject to Maximum Price Regulation 136.

GENERAL NEWS

Tank Cars Should Get Steel Wheels

Car owners asked to replace defective cast wheels and to apply snubbers

The A. A. R., Mechanical division, reports in a recent circular letter to the members and to private tank car owners that tank car repairs and maintenance were thoroughly discussed at a meeting of the Tank Car Service Executive Committee, Office of Defense Transportation, held at the William Penn Hotel, Pittsburgh, Pa., on Wednesday, September 16, 1942. At this meeting a resolution was passed to the effect that, in co-operation with the A. A. R., all car owners and carriers be urged to expedite the application of truck spring snubbers and the substitution of wrought-steel wheels for defective cast-iron wheels to tank cars, as expeditiously as available material will permit.

A representative of the Office of Defense Transportation advised those present that the O. of D. T. would give every assistance possible for procuring material necessary to accomplish these applications as soon as possible, so that lost time due to tank cars out of service for repairs will be reduced.

In event the application of one-wear wrought-steel wheels is authorized by the car owner and such wheels are not available, railroads and car owners are requested to apply new cast-iron wheels (if available) in place of defective wheels. When wheels are renewed in kind, railroads and car owners are requested to apply new wheels so far as possible, whether or not owners or delivering line defects are involved.

Private tank car owners are requested to advise promptly if they will authorize railroads to apply one-wear wrought-steel wheels (preferably new), or new cast-iron wheels, where available, in place of defective wheels, without penalty, irrespective of owners or handling line defects, billing them for the betterment charge involved, in accordance with the allowances shown in the interchange rules.

The O. of D. T. has requested that it be advised currently the number of cars equipped with spring snubbers, this information being furnished through the medium of monthly reports to the A. A. R., Mechanical division. The O. of D. T. also advises that their service representatives have found that some of the inspections being made by the tank car companies at the unloading racks are not as complete as they should be, and in some cases inspectors are not used on all three shifts. This allows some tank cars to be unloaded and returned to the railroads for empty movement without any inspection. Each tank car owner is requested to make investigation at its unloading points, and if any of them are not equipped to make inspection, necessary arrangements must be made so that all cars will receive proper inspection and repairs before they are placed in trains for movement.

This co-operation is earnestly solicited to the end that the flow of petroleum products to the eastern seaboard may be expedited.

Would Restore Standard Time in Four Winter Months

Representative Knutson, Republican of Minnesota, has introduced H. R. 7751 "to restore standard time during the months of January, February, November, and December."

I. C. C. Forwarder Investigations

On its own motion the Interstate Commerce Commission has instituted three related investigations of rates and practices of freight forwarders. They are No. 28894, consolidation of shipments by freight forwarders; No. 28896, forwarder rates conditioned upon aggregates of tonnage; and No. 28897, proportional rates of freight forwarders.

Deadline Near for Applications for Forwarder Permits

The Interstate Commerce Commission has issued a notice reminding freight forwarders who were in operation on May 16, 1942, that they must file an application with the commission for a permit to continue such operations under the terms of section 410 of the Interstate Commerce Act before midnight, November 12.

Kings Cross Celebrates Its 100th Anniversary

Kings Cross, London terminal of the "East Coast Route" to Scotland, and peacetime headquarters of the London & North Eastern, celebrated its 100th anniversary on October 14. This historic station has been the scene of many important events in British railway development. In 1879 the first railway dining car left Kings Cross. It also witnessed the departure of an express which cut down the original running time to Aberdeen, Scotland, from 11 hr. 35 min. to about 8 hr. 40 min., an average speed of over 60 m. p. h., with engine changes at six points en route.

In 1921 the first restaurant car in the world to be fitted with an electric kitchen left Kings Cross on a Leeds express. The first British streamline train, the "Silver Jubilee," commenced its 200-mile non-stop run from that point in September, 1935, and the "Coronation" and the "West Riding Limited" were introduced there two years later.

Equipment Needs Are Understated

1,000 locomotives, 100,000 freight cars, 2,000,000 tons rails are minima

The minimum equipment and track requirements of the railroads, if they are to continue to handle successfully the war traffic of the country, were placed at 1,000 locomotives, 100,000 freight cars and 2,000,000 tons of rails, by Ralph Budd, president of the Chicago, Burlington & Quincy; Henry A. Scandrett, trustee of the Chicago, Milwaukee, St. Paul & Pacific, and Arthur H. Schwietert, traffic director of the Chicago Association of Commerce, representing the shippers, in a round table discussion of Our Astounding War Transportation Machine, conducted by the Union League Club of Chicago on October 29. The discussion, over which Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation and editor of the *Railway Age*, acted as moderator, was attended by 700 representatives of the railroads, the shippers and the public.

"The need for new equipment and material for maintenance," Mr. Scandrett said in answer to Mr. Dunn's query, "can hardly be overestimated. The Association of American Railroads recently recommended to the Office of Defense Transportation the construction of 80,000 new freight cars and 900 locomotives in the next year. I think that most railroad people feel that those recommendations are unduly conservative. In fact, the report of the Bureau of Railway Economics, on which this recommendation is based, indicates that the increase in freight cars should be about 105,000; and some of us feel that we are taking chances in reducing that figure at all.

"The railroads have been able to care for increased traffic so well that there may be a tendency by the uninformed to think that because they have, they can continue to do so. But a brief analysis of the things which have enabled the railroads to do this, will, I think, dispel that view.

"In the first place, the retirements of equipment have been very small, and many units, which under normal conditions would have been retired, have been repaired instead. Cars and locomotives which have been set aside for dismantling have been put in shape to run.

"This has added very substantially to the car and locomotive supply, but that source is no longer open to us. The same is true as to the bad order situation. With both cars and locomotives, the percentage in bad order is very much smaller than at any

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Resources Board's Transport Report

Calls for permanent planning agency and embodies public ownership treatise

Establishment in the post-war period of a permanent National Transportation Agency "to coordinate all federal developmental activity in transportation along the lines of a general and progressive plan under appropriate legislative directives," is recommended in the long-awaited transportation report of the National Resources Planning Board which President Roosevelt transmitted to Congress this week. Arguments in favor of government ownership and operation of the railroads are embodied in one of the report's sections, which was prepared by Ralph L. Dewey, a principal economist on the Board's staff who was on leave from his position as principal transportation economist in charge of the Bureau of Agricultural Economics' Transportation Section.

The President's brief message noted that the staff work on the study was completed before war was declared, and that the analyses and policy recommendations "are pointed primarily toward the adjustments which the transportation industries and agencies of government will face in the post-war period." He added that he was therefore, sending the report along particularly "for the consideration of the several committees of the Congress which are and will be concerned with the formulation of plans and policies for transportation and for the economy generally in the transition period that we shall face."

"The American people," the President also said, "have always known that adequate transportation and communication facilities are essential to the national unity. We have relied upon transportation as the key factor in the development of our national resources and we know that our transportation plant and policies are playing a major role in winning the war and that they will play a similar role in winning the peace."

The report went to Congress on November 5. It is a document of 507 two-column pages, 11⅜ in. by 9 in. Prepared under the "general guidance" of an advisory committee headed by Owen D. Young, chairman of the General Electric Company, it consists of a statement of findings and recommendations, labeled "Summary Report," which was prepared by Ralph J. Watkins, director of the study; and a series of studies (including the Dewey contribution on government ownership) "assembled from contributions by a staff of specialists and by agencies within the government."

In addition to being included in the full report, which is entitled "Transportation and National Policy," the Watkins summary is also published separately under the title "The Future of Transportation" as a pamphlet in the Board's "Building America" series. In its letter of transmittal to the President, the Board, which consists of Frederic A. Delano, Charles E. Merriam, and George F. Yantis, referred to the recommendation calling for the post-war National Transportation Agency, adding that "we strongly endorse that recommendation and urge that all practicable steps be taken to translate it into action."

Meanwhile, Mr. Young's letter transmitting the report to Mr. Delano, had indicated that each section represents the views of its author not necessarily endorsed by Mr. Young or other members of the advisory committee. The latter was comprised of representatives of various government agencies concerned with transportation promotional or regulatory matters. With respect to the Watkins summary, Mr. Young said that three drafts were prepared and circulated among the advisory committee. "The intervention of the war, with its heavy demands on the time and energies of the members of the advisory committee and the staff," he went on, "made it inopportune to hold further meetings or to devote further attention at this stage to the revision of the summary statement of findings and recommendations. Under the circumstances, therefore, it seemed wise to submit the director's summary and the staff and agency studies to you with the recommendation that they be published."

As the summary report sees the post-war situation, the transportation industries will offer "some of the most promising opportunities for wise investment" of government funds; but it suggests that "public expenditures aimed at securing lasting enhancement of the national income," must be "carefully planned in the field of productive enterprise." Thus the proposed transportation agency which would formulate and execute plans "to the end that the transportation industries may make their contribution toward bridging the transition between war and peace and in order that the nation may build a transportation system commensurate with our material resources, our technological possiblities and the resourcefulness of our people." Previously the report had asserted that "although billions of dollars have been spent in the past to provide emergency relief employment on transportation projects, results have been grossly inadequate in the light of what might have been attained."

The new agency, as the report visualizes it, would absorb existing "developmental" agencies of the government in the transport field, and in addition it would have the "special responsibility" of undertaking leadership in programs "for transport consolidation, terminal unification and reconstruction, co-ordination of the various transport media, and encouragement of the development of new forms of transport within their respective economic spheres." Co-operation with regulatory agencies "would be required, but the National Transportation Agency would be responsible for the federal government's planning, development, and administrative functions in the field of transportation." Moreover, with respect to regulation, it would "undertake continuing evaluation of the economic results of present regulatory practices, including changes in the rate level, quality of service, and intensity of competition." While all this is going on, it is

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1941 Fire Losses Largest Since '24

Number of fires didn't go up much, but damage done more than doubled

Damage to railway property by fire in 1941, aggregating $7,457,758, was the largest in any year since 1924, when losses totaled $10,049,936. Figures recently published by the Fire Protection and Insurance section of the Association of American Railroads show that 4,648 fires caused losses of $7,457,758 in 1941 while 4,596 fires caused losses of only $3,577,764 in 1940. The increase in 1941 was due to a greater number of large fires. There were 5 fires involving losses of $250,000 and over, and 10 between $50,000 and $100,000, compared with 1 and 4 respectively in 1940.

The properties damaged by fire are as follows:

	Number	Amount
Non-fire-resistant building structures	1,152	$4,096,478
Freight cars	2,029	1,681,552
Bridges, etc.	286	646,806
Passenger Cars	227	347,865
Fire-resistant building structures	89	259,694
Other locomotives	53	125,391
Not separately classified	241	124,791
Steam locomotives	117	99,683
Work cars	125	48,076
Timber, etc.	243	23,284
Snow Sheds, Fences, Tunnels	86	4,138
	4,648	$7,457,758

The causes of the fires were as follows:

	Amount of loss	Number
Causes unknown	$2,195,382	970
Exposure	1,752,292	494
Smoking—Matches	1,110,790	467
Wrecks	614,219	60
Sparks, etc., from locos	209,865	466
Electric power or motors	183,030	91
Spontaneous ignition	169,494	194
Trespassers	135,595	403
Occupational	130,639	62
Concealed sparks in cotton	118,169	78
Miscellaneous	89,962	110
Incendiary	87,362	58
Flues, jacks or chimneys	77,432	87
Outside causes	75,550	101
Coal or wood stoves	66,397	145
Acetylene torch	56,897	116
Lightning	44,463	64
Material near stove or steam pipes	41,926	31
Electric lighting	40,185	50
Hot box	36,725	97
Fuel oils and gasoline	32,265	21
Burning on right-of-way	30,543	88
Sparks from brake shoe	28,471	76
Backfire and hot coals	23,537	25
Open flame torch	21,116	38
Sparks from chimney	19,123	52
Gasoline or diesel power or motors	18,581	31
Heating	14,022	24
Gas, gasoline or oil stoves	10,627	21
Gas, gasoline or oil lighting	9,358	19
Power	6,307	27
Car heaters	5,904	34
Loading hot cinders	1,232	43
Lighting	298	5
	$7,457,758	4,648

A.A.R. Annual Meeting

The annual meeting of member roads of the Association of American Railroads will be held at the Palmer House, Chicago, on November 17.

Service Order 91 Vacated

The Interstate Commerce Commission on October 31 issued Service Order No. 91-A, vacating Service Order No. 91 which had been issued October 23 when flood conditions caused an accumulation of cars loaded with coal on the Virginian.

Railroads Active in Accident Prevention

Southern roads join those of east and west in campaign to conserve manpower

Ernest E. Norris, president of the Southern Railway System, has accepted the chairmanship of the Southern railroads' committee of the War Production Fund to Conserve Manpower, it has been announced by William A. Irvin, former president of the U. S. Steel Corp., and national chairman of the Fund. Mr. Norris follows the precedent of Frederick E. Williamson, president of the New York Central, who has acted as chairman of the Fund's Eastern railroads' committee, and of William M. Jeffers, president of Union Pacific, and F. J. Gavin, president of Great Northern, who served as co-chairmen of the same organization's Western railroads' committee.

The War Production Fund, currently branching out into every important industrial center in the United States, grew out of a Presidential proclamation deploring the serious drain on manpower by preventable accidents, and calling on the National Safety Council to expand its accident-prevention activities. With the endorsement of Donald Nelson, chairman of the WPB, the War Production Fund was set up as a public service by business and industry to raise the $5,000,000 needed by the National Safety Council to carry out its wartime assignment. The Fund to date has received over $1,000,000 in subscriptions, one-quarter of which amount has already been put to work in war production and military centers by the National Safety Council.

American railroads have contributed generously to the Fund. The Western roads made contributions totaling $88,000, and the Eastern roads, through the Eastern Railroads' Presidents' Conference, subscribed a total of $100,000. Railroad traffic since the war started has increased enormously. The strain all along the line, despite the most thorough and effective safety programs in the world, is having a bad influence on railroad accident-experience. From 1940 to 1941 deaths to steam railway employees on duty rose 38 per cent from 600 to 826, and injuries 41 per cent from 17,836 to 25,188, according to compilations made by the National Safety Council.

This is very much in line with the over-all accident-experience of the country, which last year reached a peak of 102,000 persons killed, 9,000,000 injured. About half of these were employees in one way or another having a part in war production. The loss in man-days—480,000,000 according to National Safety Council figures—was staggering, enough to outfit an army of 200,000 men, or to build 23,000 four-motored bombers. A reduction in auto traffic may eventually lower over-all figures, but this reduction will, of course, work adversely on the railroads, which must shoulder the burden as fast as it is removed from the highway.

Mr. Irvin, in his capacity as national chairman of the Fund, has been emphasizing the nation-wide scope of the problem in a series of talks and addresses given before interested business and industrial leaders in New York, Hartford, Philadelphia and Chicago. In a recent address before the Thirty-First Safety Congress sponsored by the National Safety Council, he warned that "in our planning, we have by-passed the fact that in a society in which all of us are constantly exposed to the potential carelessness of others, the over-all accident problem directly concerns each of us." Urging that business and industry give substantial support to the War Production Fund's campaign for funds to finance an extension of National Safety Council safety programs, Mr. Irvin said: "If $5,000,000 can re-energize the safety movement, bring it to life not only in the industrial plants, but on the outside as well, I feel it is worth many, many times that amount."

Gass to Discuss Railroad Service to Army

Arthur H. Gass, manager, Military Transportation Section, Car Service Division, Association of American Railroads, will be the speaker for the New York Railroad Club at its meeting in the Engineering Societies Auditorium on Thursday evening, November 19, at 7:45 o'clock. His subject will be "Railroads Go to War." He is acting as the liaison officer between the railroads and the War Department and his responsibilities include the setting up of schedules for the movement of troops and impedimenta. He is a veteran of the first World War, having served with the AEF, Company B, 23rd Engineers.

Club Meetings

The annual meeting of the National Industrial Traffic League will be held at the Hotel Pennsylvania, New York, on November 19 and 20.

The 21st annual dinner of the New Jersey Industrial Traffic League will be held at the Robert Treat Hotel, Newark, N. J., on November 19 at 6:30 o'clock.

The next regular meeting of the Railroadians of America will be held on November 13 at 7:30 p. m. in the auditorium of the Pennsylvania Railroad YMCA, New York. P. M. Shoemaker, superintendent of the Delaware, Lackawanna & Western, will address the meeting on "The Problems of a Railroad Superintendent."

9 Mo. Net Income Was $572 Million

Net railway operating income for the same period was $972,989,640

Class I railroads in the first nine months of this year had an estimated net income, after interest and rentals, of $572,300,000 as compared with $359,710,614 in the corresponding period last year, according to the Bureau of Railway Economics of the Association of American Railroads. The nine-months net railway operating income, before interest and rentals, was $972,989,640, compared with $755,974,234 in the same 1941 period.

In the 12 months ended September 30, 1942, the rate of return averaged 4.58 per cent, compared with 3.77 per cent for the 12 months ended September 30, 1942.

September's estimated net income was $105,100,000, compared with $59,324,070 in September, 1941; while the net railway operating income for that month was $154,631,717, compared with $104,357,836.

Total operating revenues in the nine months amounted to $5,327,539,489, compared with $3,892,523,031 in the same period in 1941, or an increase of 36.9 per cent.

Operating expenses amounted to $3,346,737,396, compared with $2,614,515,317, or an increase of 28 per cent.

Class I roads in the nine months paid $875,865,672 in taxes, compared with $422,375,219 in the same period in 1941. For September alone, the tax bill amounted to $127,258,597 an increase of $66,111,422 or 108.1 per cent above September, 1941. Fourteen Class I roads failed to earn interest and rentals in the nine months, of which six were in the Eastern district, one in the Southern district and seven in the Western district.

Gross for September totaled $697,792,146 compared with $488,978,901, in September, 1941, while operating expenses totaled $399,705,707 compared with $312,288,197 in the same month of 1941.

Class I roads in the Eastern district in the nine months had an estimated net income of $243,200,000 compared with $207,326,793 in the same period last year. Their nine-months net railway operating income was $402,372,607, compared with $373,549,141. Operating revenues in the Eastern district in the nine months totaled $2,503,944,149, an increase of 29.3 per cent compared with the same period in 1941, while

CLASS I RAILROADS—UNITED STATES

	1942	1941
Month of September		
Total operating revenues	$697,792,146	$488,978,901
Total operating expenses	399,705,707	312,288,197
Operating ratio—per cent	57.28	63.87
Taxes	127,258,597	61,147,175
Net railway operating income (Earnings before charges)	154,631,717	104,357,836
Net income, after charges (estimated)	105,100,000	59,324,070
Nine Months Ended September 30		
Total operating revenues	$5,327,539,489	$3,892,523,031
Total operating expenses	3,346,737,396	2,614,515,317
Operating ratio—per cent	62.82	67.17
Taxes	875,865,672	422,375,219
Net Railway operating income (Earnings before charges)	972,989,640	755,974,234
Net income, after charges (estimated)	572,300,000	359,710,614

operating expenses totaled $1,619,314,186 an increase of 25.6 per cent.

September's estimated net income in the Eastern district was $41,100,000 compared with $29,516,304 in September, 1941. Net railway operating income for the month amounted to $61,314,638 compared with $47,923,459.

Class I roads in the Southern district in the nine months had an estimated net income of $94,700,000 compared with $55,208,512 in the same period last year.

They had a net railway operating income, of $144,492,536 compared with $104,449,124. The nine-months gross in the Southern district totaled $746,590,486, an increase of 47.5 per cent compared with the same period in 1941, while operating expenses totaled $448,270,527 an increase of 32.6 per cent.

In the Southern district for September the estimated net income was $13,100,000 compared with $6,722,988 in September, 1941; net railway operating income amounted to $20,068,296 compared with $12,760,199.

Class I roads in the Western district in the nine months had an estimated net income of $234,400,000 compared with $97,175,309 in the same period last year. Those same roads had a net railway operating income of $426,124,497 compared with $277,975,969. Gross in the Western district in the nine months totaled $2,077,004,854, an increase of 43.3 per cent compared with the same period in 1941, while operating expenses totaled $1,279,152,683 an increase of 29.6 per cent.

The Western district estimated net income for September was $50,900,000 compared with $23,084,778 in September, 1941. Net railway operating income amounted to $73,248,783 compared with $43,674,178.

Southern Livestock Rates

Acting upon petitions of Official, Southern and Central territory railroads, the Interstate Commerce Commission has postponed from December 1 until January 1, 1943, the effective date of its I. & S. No. 4779 order prescribing a new rate structure and transit arrangements on livestock to and from the South. The time for filing petitions for reconsideration has been extended to November 14.

As noted in the *Railway Age* of October 10, page 582, the railroads had sought a postponement until February 1, 1943, with a December 1 deadline for the filing of their petition for reconsideration.

Railway Construction in Brazil

Bids have been asked for the building in Brazil of a railway of 64 kilometers (40 miles) to extend from Joaquim Murtinho to a paper factory located at Monte Alegre, according to the Foreign Commerce Weekly. Contractors are required to deposit in the Bank of Brazil a sum equal to the price of 250 kilometers of rails and 50 sets of points (switches) and the work must be completed within 2 years. Continuation of the connection between Palmera dos Indios and Colegio, in Alagôas, to form part of the Great Western of Brazil railway system, is provided for in the current federal budget by a sum of 6,000 contos (about $306,000). Earthwork is now completed up to Campo Grande, 40 kilometers from Colegio, the terminal. Station buildings have been erected at Olhos d'Aguas do Acioli and Arapuaca.

War Needs Speed Work on Chile-Argentine Rail Link

A new Trans-Andean railway is now under construction between Antofagasta, Chile, and Salta in the northwestern corner of Argentina, according to the Foreign Commerce Weekly. Antofagasta, the second most important port in Chile, ranks first among Chilean ports in value of exports and third in imports. Shortage of ocean shipping because of the war has brought home the necessity for building up markets near at hand and has revived highway and railroad building projects which have been set aside for a long time. The railway was first proposed in 1898.

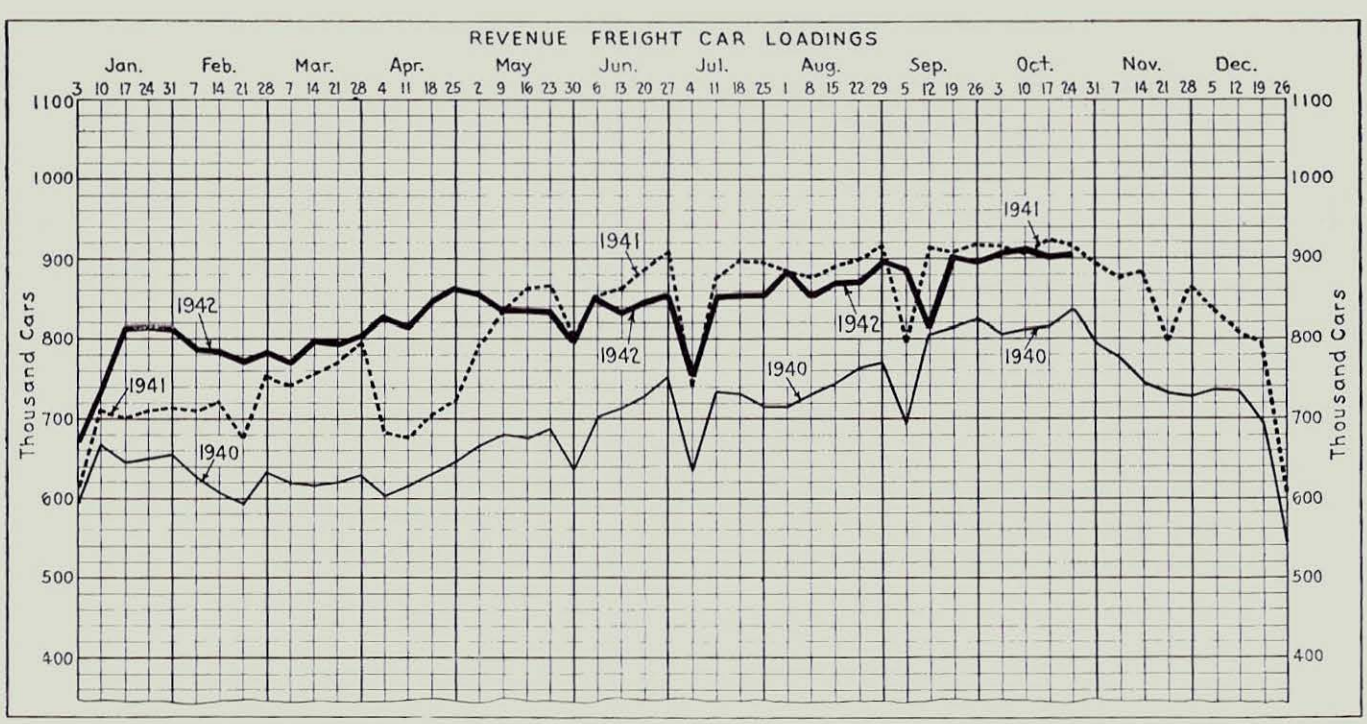
The distance from Antofagasta to the city of Salta along the line of the proposed railroads is about 550 miles, of which 205 miles are in Chile and 357 in Argentina. Work on the railroad is being carried forward from both ends. In Chile the rails have been laid for a distance of 150 miles eastward from Antofagasta, and the fill has been completed to within 19 miles of the border between the two countries. The border is crossed at the Socompa Pass, 12,600 ft. above sea level. On the Chilean side 52 miles of rail are still to be built. Construction of this section is expected to cost about $1,300,000.

About 190 miles of the Argentine section of the railroad have already been completed and are now in service. The line extends from Salta through San Antonio to the town of Positos, leaving 158 miles of the Argentine section still to be finished. 3,000 men are now working on the 30-mile stretch just beyond Positos, and it is expected that this section will be completed by the end of 1942. Many difficult engineering problems have been encountered in the 190 miles between Salta and Positos. The line has 30 bridges, 20 tunnels and 15 trestles or viaducts. One of these, the Polvorilla viaduct, is built on a curve 722 ft. long and 207 ft. above the valley.

Pending completion of the railroad, a motor transport company has been organized in Argentina to carry passengers and freight over the mountain highway for the 212 miles between the railheads in Argentina and Chile.

Freight Car Loading

Loadings of revenue freight for the week ended October 31 totaled 890,469 cars, the Association of American Railroads announced on November 5. This was a decrease of 12,777 cars, or 1.4 per cent, below the preceding week, a decrease of 4,276 cars, or 0.5 per cent, below the correspond-



ing week last year, and an increase of 95,672 cars, or 12 per cent, above the comparable 1940 week.

As reported in last week's issue, loadings of revenue freight for the week ended October 24 totaled 903,246 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, October 24

District	1942	1941	1940
Eastern	165,167	189,727	173,518
Allegheny	186,160	196,790	168,478
Pocahontas	54,468	59,423	49,142
Southern	127,362	124,575	115,630
Northwestern ..	145,749	143,587	137,528
Central Western	146,589	138,066	134,448
Southwestern ..	77,751	61,437	58,913
Total Western Districts	370,089	343,090	330,889
Total All Roads	903,246	913,605	837,657
Commodities			
Grain and grain products	47,665	35,083	40,421
Live stock	24,361	20,378	22,509
Coal	167,257	165,228	136,430
Coke	13,989	13,132	11,989
Forest products	49,211	45,917	43,604
Ore	76,075	68,455	68,512
Merchandise l.c.l.	92,188	159,828	156,728
Miscellaneous .	432,500	405,584	357,464
October 24	903,246	913,605	837,657
October 17	900,767	922,884	813,909
October 10	909,957	903,877	811,906
October 3.....	907,607	917,896	806,004
September 26 ..	897,714	919,794	822,434
Cumulative Total 43 Weeks ...	35,857,756	34,926,011	29,859,516

In Canada.—Carloadings for the week ended October 24 totaled 73,045 compared with 69,198 for the previous week, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada	Total Cars Loaded	Total Cars Rec'd from Connections
October 24, 1942	73,045	34,828
October 17, 1942	69,198	35,033
October 10, 1942	73,952	36,113
October 25, 1941	72,944	33,922
Cumulative Totals for Canada:		
October 24, 1942	2,776,372	1,453,673
October 25, 1941	2,606,506	1,273,248
October 26, 1940	2,296,690	1,053,741

Dies of Pullman's First Streamliner go to Scrap

The dies used by the Pullman-Standard Car Manufacturing Company in the construction of the first streamliner, the City of Salina of the Union Pacific, were sent to the scrap pile on November 2, in the company's campaign to clear its war plants of all material that can be used in our war effort. A total of 61,300 tons of metal, including 423 machines and pieces of equipment, has been turned in by Pullman plants since January. Equipment which has been stored against possible future needs or for sale and for which actual needs cannot be foreseen is being scrapped.

Railroad Administration As a Field for Research

"There is good reason to think that we are entering upon a period of national administration of business, on the side especially of control and policy but with management left in private hands. Unquestionably greater concentration will come, whether it be under private or government control. In either case the strain on administratoin will be beyond anything we have hitherto experienced. In this situation the railroad industry has probably more to offer through the historian than has any other industry, for it has given us the longest large-scale experience in business and in government regulation of business."

So concludes Henrietta M. Larson writing on "Some Unexplored Fields in American Railroad History" in the October issue of the Bulletin of the Business Historical Society (Baker Library, Harvard Graduate School of Business Administration, Boston, Mass.). Miss Larson discusses the need for research into the history of railroad administration, about which little organized information is available. She suggests three phases of the subject in which such research might be conducted. First, the investigation of the administration of the individual road; second, business biographies of men in administrative or managerial positions, such biographies to include the well-known as well as the not-so-well-known railroaders who were responsible for developing policies of administration and management in the early days of railroading; and, third, the study of a part of the administrative history of a road or a subject of general significance from the point of view of administration, such as railroad construction, the history of types of railroad securities, and the history of railroad accounting with special emphasis on cost accounting.

Status of M. P. General Yardmasters

Examiner Leland F. James has recommended in a proposed report an Interstate Commerce Commission finding to the effect that commission orders defining the work of employees or subordinate officials of railroads include the work of Missouri Pacific general yardmasters and assistant general yardmasters, except those at St. Louis, Mo., Kansas City, and Little Rock, Ark. The examiner said that the employees involved do not meet the test as "officials" because he found no evidence of their authority to hire, discharge, and discipline employees.

Another recommendation of the proposed report, which is in Ex Parte No. 72 (Sub-No. 1), suggests that the commission should apply to assistant general yardmasters at large and important switching centers that provision of its order of February 5, 1924, which defines general yardmasters at such terminals as "officials."

* * *

New Solder from Old

One of the wartime conservation practices at the New Haven's Readville, Mass., shops is to melt off and collect solder from scrapped tin cans, so that fresh bars can be cast for use again.

September Earnings in Canada

The two principal Canadian railways reported September earnings and expenses as follows:

Canadian Pacific

September	1942	Increase
Gross	$22,113,749	$2,845,606
Expenses	18,544,572	2,742,981
Oper. Net. ..	$3,569,177	$102,625
9 Months		
Gross	$187,126,616	$28,669,122
Expenses	155,120,875	26,391,052
Oper. Net ..	$32,005,741	$2,278,070

Canadian National

September		
Gross	$33,860,000	$6,727,847
Expenses	25,027,702	4,288,621
Oper. Net ..	$8,832,298	$2,439,226
9 Months		
Gross	$270,827,000	$40,514,989
Expenses	208,066,026	36,343,341
Oper. Net ..	$62,760,974	$14,171,648

Withdraw Tariffs Canceling Rule 34's Substitution Provisions

With the withdrawal of suspended railroad tariffs proposing permanent cancelation of the so-called substitution provisions of the Consolidated Freight Classification's Rule 34, the Interstate Commerce Commission last week canceled the hearing on the schedules (I. & S. No. 5156) which had been assigned for November 6 at Chicago.

As noted in the *Railway Age* of October 24, page 671, the substitution provisions are those rules which cover the furnishing of cars at variance with shippers' orders. They have been set aside for the duration by the commission's Service Order No. 68, effective since February 15.

C. P. R.'s Former "Silk Express" Cars Converted to War Needs

Due to the stoppage of silk imports from Japan, through-baggage cars which were formerly used on fast passenger trains of the Canadian Pacific to speed raw silk from west coast ports to eastern textile mills have been released for wartime service. Fifteen cars of this type are now being transformed for use as baggage-express cars. The converted cars will become "secondary" cars and will absorb excess baggage and express traffic from regular line baggage-express cars. The redesigned cars are only 44 ft. long, as contrasted with regulation baggage-express cars which measure 70 and 80 ft. in length, hence their classification as "second-line"

cars. Alterations are being made at the Canadian Pacific's Angus shops.

The car conversion program entailed the installation of vapor-heat equipment, lighting facilities, the installation of end platforms, communication doors and windows and the alteration of side doors from freight-type to passenger-baggage type, together with other technical details.

When current wartime demands on available express and baggage space subside, these converted cars may be equipped to operate independently on branch lines. For the present, however, they will perform wartime auxiliary service on the C. P. R.'s main lines.

I. C. C. Finds Rock Island Has Ceased "Discrimination"

Passing upon the "Jim Crow" complaint of C. S. Stamps, negro clergyman, against the Chicago, Rock Island & Pacific, outlined in *Railway Age* of February 14, page 391, Division 3 of the Interstate Commerce Commission has found that the accommodations furnished the complainant were in fact "unreasonable and unjustly discriminatory," but dismissed the complaint, as suggested by the examiner's report, because steps have been taken by the railroad since the incident occurred to provide accommodations for Negroes "substantially equal" to those provided for white passengers.

New Bridge Completes All-Rail Route to Central America

Completion of the new half-mile international bridge crossing the Suchiate river on the Mexico-Guatemala border makes possible the shipment of goods to the United States border within four days over an all-rail submarine-proof route between North America and Central America. Heretofore such shipments had to be unloaded from freight cars and poled across the Suchiate river in tiny boats, then recarted and reloaded into freight cars. The new bridge will permit Mexican standard-gauge equipment to cross to the Guatemalan side and makes it possible to load directly into and out of the narrow-gauge Guatemalan cars.

Equipment Needs Are Understated

(*Continued from page 747*)

previous time in the history of railroads, and the extent to which car supplies can be increased by further reducing bad orders is extremely limited."

"Mr. Scandrett," Mr. Budd said, "talked mostly about cars. I think the railroads have three major needs which will draw on the supply of materials, and perhaps in the order of importance they are locomotives, steel rails and cars. I put the cars last, not because they are not as necessary as the others, but because any increase that we get in cars will be a small percentage increase at best, and the better utilization of cars, if we have more locomotives and good fast track, may help the car deficiency.

"I think we need 1,000 locomotives; I think we need 2,000,000 tons of steel rails, and I think we need 100,000 freight cars. Those are the minimum requirements for 1943. Mr. Eastman, who has the best overall view of the transportation picture, agrees with these figures. I think he would be inclined to increase the locomotives and cars a little. But unless we do have that number of units it is going to be very difficult to continue the performance in ton-miles per car-day which is really the index of what we have to do.

"It doesn't take a very large percentage of the output of material in this country to keep these railroads in balance with production. The first thing, of course, is to keep our present plant in such excellent condition that we can continue to put a very heavy load on it and get more traffic output per unit than ever before, and the second, simply, is to allow us enough to keep our transportation agencies in balance with the increased load that will be placed upon them."

"The shippers," Mr. Schwietert said, "have a real interest in transportation. If we get into any system of priorities or permits, or shortage in transportation facilities, the shippers lose more than the railroads. Some shippers are not going to find it possible to sell their goods, or ship them to the places where they are needed. The railroads will be operating as near to capacity as can be under those conditions, but the shippers will find it impossible to move traffic.

"The National Association of Shippers Advisory Boards has presented a resolution, which it recently adopted, to the War Production Board pointing out the need for more materials for railroad cars and locomotives, and other equipment.

"I was advised only today that there will be another committee of shippers, representing the nation as a whole, that will appear before the War Production Board with a resolution contending that added materials must be allocated to the railroads to meet the 1943 traffic demands."

Other phases of railroad transportation upon which the members of the round table commented included the record of the railroads and shippers thus far in World War II compared with their performance in World War I, the possibilities of rationing passenger traffic and government ownership.

Supplementary List of Snubber Applications

Recent circular letters to members of the A. A. R., Mechanical division, and to tank car owners about the application of spring snubbers to tank car trucks have now been supplemented by the following revised and amplified lists of (A) Private car owners who have agreed to permit railroads to apply snubbers to truck spring clusters of

(A) Private Tank Car Owners Who Have Agreed to Permit Railroads to Apply Snubbers to Truck Spring Clusters of Their Cars

Car owner	Reporting marks	Type of snubber preferred	Cars owned*
Aluminum Co. of Canada, Ltd.	ALCX		28
American Cider & Vinegar Co.	ACVX		10
Apache Powder Company	APHX		1
Atlas Powder Company	APCX		51
Barrett Division, Allied Chemical & Dye Corp.	BMX		1,528
California Despatch Line	CDLX		380
Chipman Chemical Company, Inc.	CCEX	Miner C2XB	19
Commodities Car Company, Inc.	CMWX		5
Continental Oil Company	CONX	Cardwell-West. A or Miner C2XB	1,210
El Dorado Refining Company	EDRX	Cardwell, Miner or Holland A-6	292
Fleischmann Transportation Co.	FTCX		265
John H. Grace Company	GRYX		179
W. R. Grace Company	OVOX		25
Hercules Powder Company	HPCX	Cardwell-West. A or Symington-Gould SBR	185
Houston Packing Company	HPX		16
Humble Oil & Refining Co.	HOX	Cardwell-Westinghouse A	326
Independent Coal Tar Company	ICTX		2
Internat'l Min. & Chem. Corp.	ITX		7
Interstate Tank Car Corp.	ISTX		401
Interstate Transport Company	ITCX		54
Keith Railway Equipment Company	KTX		714
Koppers Company	KPCX	Cardwell-West. or Miner	181
C. C. Lang & Son Co.	LSX		8
O. E. Linsin, Inc.	OELX		85
Marden-Wild Corp.	MWKX		1
H. W. Madison Company	HWMX		2
Mexican Petroleum Corp.	MPLX	Miner, or Cardwell-West.	2,162
Mineral Point Zinc Division New Jersey Zinc Company	MPZX		17
New Jersey Zinc Company (of Pa.)	NJZX		8
Oldbury Electro-Chemical Co.	OECX		4
Phillyss Petroleum Company	SWLX-PSPX	Cardwell-West. or Miner	2,610
Protane Corporation	PBGX		6
O. H. Schoenwald	OHSX-WMGX	Miner or Cardwell	21
Shell Chemical Company	SCMX	Miner C2XB or Cardwell-West.	148
Shell Oil Company	SCCX	Miner C2XB or Cardwell-West.	539
Simmons Oil & Refining Co., Inc.	SAX		46
Socony-Vacuum Oil Company White Eagle Division	WEOX	Cardwell-West. A or Miner C2XB	740
White Star Ohio Division	WSRX		296
Stanolind Oil & Gas Co.	MMGX		94
Stauffer Chemical Company Eastern Branch	SCHX	Cardwell or Miner	46
Louis Stern Sons, Inc.	LSSX		22
Sun Oil Company	SUNX	Sun type T-1 Miner C2XB Cardwell-West. A	1,056
Sylvania Industrial Corp.	SYLX		5
Taylor Refining Company	TRX		150
Tennessee Products Corp.	TPDX		5
Union Tank Car Company	UTLX*UTCX-UTX-PX		38,731
War Department, U. S. A. Trf. Control Div., Tank Car Branch	CWSX-USOX-USQX	Cardwell-West. or Miner	2,440
	47 car owners		55,121

* Equipment Register, October, 1942.

(B) Private Tank Car Owners with Cars Are Already Equipped, Necessary Snubbers Purchased and Being Applied by Their Own Forces, or Arrangements Made for Application by One or More Railroads Over Which Their Equipment Moves

Car owner	Reporting marks	Type of snubber preferred	Cars owned*
Appalachian Electric Power Co.	1 APEX	Simplex	2
Atlantic City Electric Company	2 ACEX	Simplex	1
R. L. Aycock Company	2 AYCX		64
Belcher Oil Company	2, 3 BEPX	Miner C2XB	20
Bisbee Linseed Company	1 BLX		52
Champlin Refining Company	2 HHCX LENX		698
Cities Service Oil Company	2 CSOX EORX		2,992
Colorado Fuel & Iron Corp.	3 CFIX		4
Cosden Petroleum Corp.	2 CPCX	Miner C2XB	622
Crucible Steel Co. of America	2 CSAX	Miner	13
Cushing Refining & Gasoline Co.	2 CRGX	Cardwell-Westinghouse	110
†Deep Rock Oil Corporation	1 DRX OZKX	Cardwell or Miner	668
E. I. duPont deNemours & Co.	2 DUPX		885
Ethyl Corporation	1 EBAX	Cardwell-Westinghouse	231
Gen. American Transp. Corp.	2 BAX BCOX GGAX CTTX GATX LAPX LDLX NOLX PFTX QTX STCX SWTX		27,571
General Chemical Company	2 GCX		565
Harbor Tank Line Company	2, 3 HTCX		350
Hooker Electrochemical Co.	2 HOKX		166
Indiana & Michigan Elec. Co.	1 IMEX	Simplex	1
Kingan & Co.	1 KCX	Cardwell-Westinghouse	1
†Lewis Tar Products Company	2 LTPPX	Holland A-6	25
†Lone Star Gasoline Company	1 LSGX	Cardwell-Westinghouse	325
†Magnolia Petroleum Company	2 MPCX	Cardwell	905
Mather Stock Car Company	2 RPRX		12
Mid-Continent Petroleum Corp.	1 COSX OSKX		2,136
Niacet Chemicals Corp.	2 NIAX	Miner C2XB	41
North American Car Corp.	2 NATX		4,521
Ohio Power Company	1 OPX	Simplex	2
Otex Tank Line Company	2 OTEX	Cardwell-Westinghouse A	8
Philadelphia Quartz Company	2 PQX		123
Philadelphia Quartz Co. of Cal., Ltd.	2 PQCX		13
Pioneer Equipment Company	2 PECX	Cardwell-Westinghouse A	178
†Pittsburgh Plate Glass Co. Columbia Chemical Div.	2 PPGX or CACX	Cardwell-Westinghouse A	114
Old Hickory Chemical Company	2 OHCX		9
Root Petroleum Company	2 RUTX		154
The Simmons Company	2 SMCX		107
†Sinclair Refining Company	2 SDRX UNPX PARX FMTX	Cardwell-West. A or Miner C2XB	6,456
†Southern Alkali Corp.	2 SACX	Cardwell-Westinghouse A	50
Speas Company	2 SVMX	Cardwell-Westinghouse A	20
A. E. Staley Manufacturing Co.	2 AESX		88
M. B. Suydam Company	3 MBSX		3
Tank Car Corp. of America	2, 3 HMHX NAMX		203
†Union Starch & Refining Co.	1 USTX	Cardwell	77
	43 car owners		50,586

* Equipment Register, October, 1942.
† These companies also agree that, in replacement of worn out, damaged or defective snubbers, railroads may apply preferred snubber specified.

their cars; and (B) private car owners who advise with respect to application of truck spring clusters on their cars that (1) all of their cars are already equipped, or (2) the necessary snubbers have been purchased and will be applied by their own forces, or (3) arrangements have been made with one or more railroads over which their equipment moves to apply these devices to their cars.

Representation of Employees

The National Mediation Board has announced the results of recent elections ordered by it to dispose of disputes over representation of railway employees. Boilermakers, and their helpers and apprentices, on the Norfolk & Western, who had been represented by the Association of Boilermakers, Helpers and Apprentices, Mechanical Department Associations, Norfolk & Western, voted 327 to 164 to designate the International Brotherhood of Boilermakers, Iron Ship Builders and Helpers of America, A. F. of L., to represent them.

In an election involving employees of the Lehigh & New England, A. F. of L. unions won the right to represent several classes of the road's employees who had been represented by the Association of Maintenance of Equipment Employees of the L. & N. E. Employees voting were machinists, boilermakers, electrical workers, and carmen (including car cleaners). Mechanical department foremen and supervisors of mechanics on the Wabash, who had not been represented by any organization, voted to affiliate with the American Railway Supervisors' Association, and inside hostler helpers on the Florida East Coast, also previously unaffiliated, voted to be represented by the Brotherhood of Locomotive Firemen & Enginemen.

An election held on the Alton to settle a dispute between the Dining Car Employees Union, Hotel & Restaurant Employees International Alliance, and the Utility Workers' Organizing Committee, as to which should represent that road's dining car employees, resulted in a vote of 71 to 42 for the former union, which had previously been designated to represent these employees.

Spain's Railways Are Not in Flourishing Condition

Railroad transportation systems of Spain are said to be badly handicapped by shortages and poor quality of rolling stock, according to the Foreign Commerce Weekly. During the Spanish war, from July, 1936, to April, 1939, approximately 34 per cent of the country's locomotives, 60 per cent of its passenger cars, and 40 per cent of its freight cars were destroyed or badly damaged. Although much of this stock has been repaired and reconditioned, and some new equipment has been acquired, less rolling stock was available on January 1, 1942, than in July, 1936, as shown in the following figures:

	July 18 1936	April 1 1939	Jan. 1 1942
Locomotives	2,800	1,837	2,475
Passenger cars	4,383	1,740	2,816
Freight cars	69,222	41,700	64,997

In December, 1939, the Spanish Government ordered 150 locomotives and in August, 1941, an additional 130 were ordered. By May, 1942, only 23 had been delivered. Some of the switch engines now in use are said to have been built in 1850.

No new passenger cars have been built in Spain since the war ended and most of those now being used are very old and in poor condition. The freight car situation is somewhat better. Delivery of 2,500 new freight cars, which were ordered in 1939,

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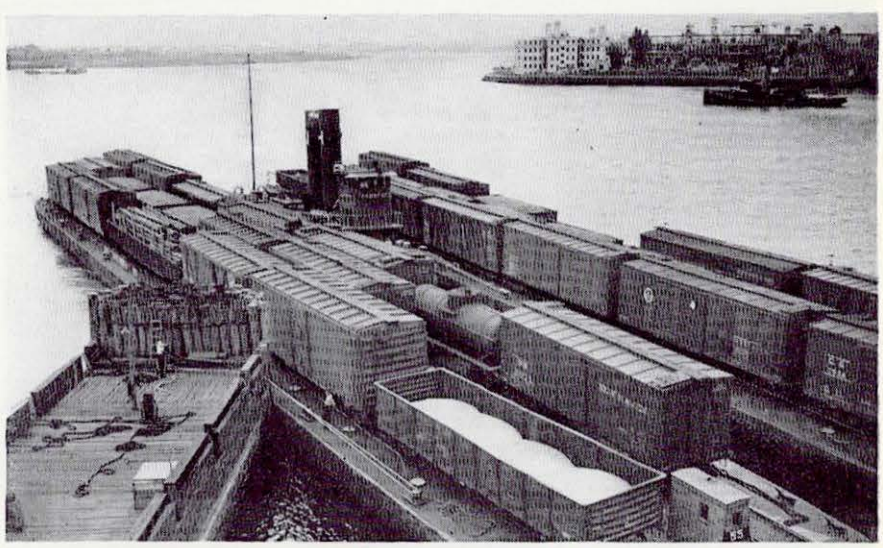


Freight for New England Ends New York Harbor Transfer

One of the New Haven's thirteen steel-hulled tugs is bringing two loaded car floats from a New Jersey rail terminal into a slip at Oak Point, New York City.

has been made, and 3,500 more are being built.

Domestic production appears to be adequate to meet normal replacement demands, but not to meet present requirements which are especially great as a result of war damage and deterioration. An indication of the condition of many of the freight cars now in use is found in the report that of the 595 Spanish freight cars carrying freight to one Portuguese port of entry, during the last quarter of 1940, the Portuguese authorities refused to allow 80 of the cars to cross the border and required extensive repairs on 200 others before permitting them to enter.

Resources Board's Transport Report

(*Continued from page 748*)

suggested that regulatory agencies "should apply with caution the minimum rate and right-of-entry controls to avoid undue restriction of competitive forces."

As suggested in the preview of the report which went to Congress last January, as noted in the *Railway Age* of January 24, page 252, the private ownership of railroads is one obstacle in the way of the planners who would make post-war construction or reconstruction of rail facilities eligible for large government expenditures. In this connection the summary report's discussion suggests that "the ultimate solution may lie in the public ownership or leasing of all basic transport facilities, with the railroad fixed plant placed in the same category as public highways, waterways, and airways and paid for according to use."

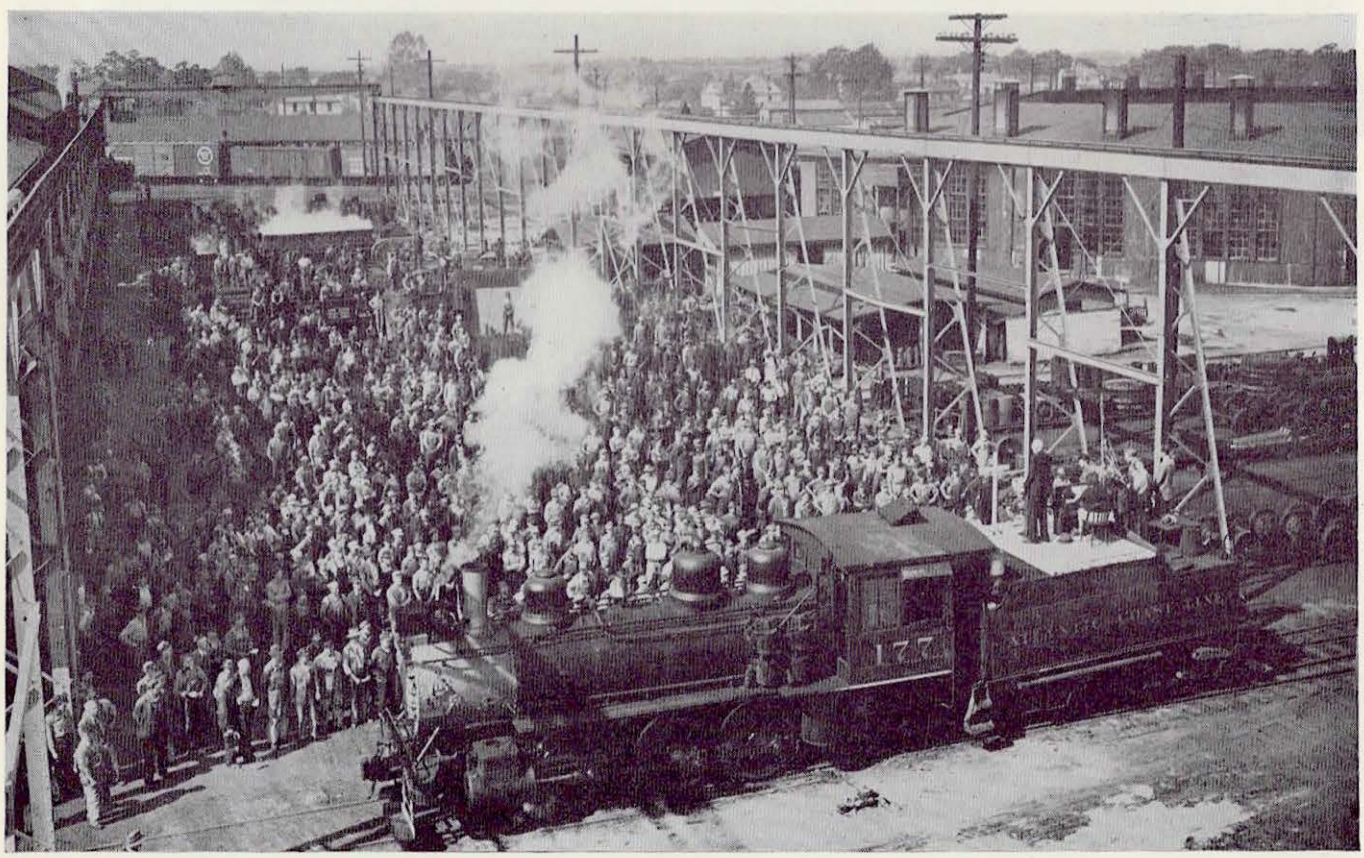
The report goes on to point out that emergency public works programs in the transport field have in the past applied only to highways, waterways, and airways. "In the future," it adds, "the extension of such programs to the railroads would have the advantage of not only creating a more competitive condition, but of tapping a large new reservoir of useful and needed construction projects." The specific recommendation on "public responsibility for basic transport facilities," however, leaves to the proposed transportation agency the job of devising "suitable means" whereby public-works programs may be extended to railroads.

Recommendations in connection with the terminal problem call for the "planning and construction of modern, unified terminal facilities to serve a co-ordinated transportation system." Such terminals "should be provided as an integral part of the city plan, their facilities open on equal terms to all suitable carriers." With respect to railroad consolidation, the report would further plans "which can be shown to result in increasing the economy of operations"; and it would do this "despite opposition from investors, labor, management, or affected communities based on a narrow vested interest in existing economic relationships." Consolidation "should contemplate a limited number of systems arranged along regional lines, but avoiding systems of excessive size."

In the latter connection the report had previously said: "A single national system under private management is objectionable since it would place vast economic power under the control of a few and raise serious regulatory problems. Should integration proceed to that degree, government ownership and operation would seem to be the only feasible alternative. . . . Care should be taken to avoid the formation of systems of excessive size which might encounter serious diseconomies from difficulties of organization and management."

In leading up to these comments the report conceded that there is much co-operation and co-ordination in the railroad industry, mentioning through routes, joint rates, trackage arrangements, joint use of terminals, etc. It nevertheless suggested that freight, express, and forwarder operations "require integration in the interest of improved service and greater economy," while "a central clearing house to settle interline accounts and many similar devices are desirable." And "finally, improvement and co-ordination of terminals and elimination of wasteful competitive practices in the large terminal areas are urgently needed." Meanwhile, "the broader, but

Prayer for Victory at Emerson Shops



A. C. L. Photo

Religious Services Have Been Held by Atlantic Coast Line Shopmen at Rocky Mount Each Friday for 52 Years—But This Service Is a Special Occasion, with Victory the Petitioners' Theme

important, problem of co-ordinating the various transport media with one another has been scarcely touched."

With respect to the labor situation, the report states the problem to be one wherein "long-range considerations require greater attention to the desirability of more equitable balance among the several transport agencies in collective bargaining arrangements, labor standards, and labor legislation." Its recommendation on this matter call for consideration of the possibility of substituting workmen's compensation procedure for the present system of employer liability."

There is also a recommendation covering National Railroad Adjustment Board procedures, which says: "Procedures of the National Railroad Adjustment Board should be revised to accord with the recommendations and suggestions of the Attorney General's Committee on Administrative Procedure. Agreement rules which have been interpreted to require a rigidity of jurisdictional lines as between occupations should be altered to permit greater flexibility in securing economy and efficiency and in improving service without sacrificing the interests of employees in maintaining labor standards on a high and equitable level. In the interpretation of the rules any attempt to substitute a narrow legalism for considerations of justice and equity should be rigorously opposed."

Because of the "complexity of the rate structure," the report says that "further legislative treatment" of the interterritorial freight rate controversy "appears inadvisable." It therefore recommends that all interested parties "lend their co-operation to the Interstate Commerce Commission in order that a fair solution may be sought in an objective and dispassionate spirit." Moreover, it anticipates that "the acuteness of this problem will be alleviated with the further development of competitive agencies of transport."

The policy recommendation on highway transport suggests that war conditions "provide an excellent opportunity . . . for the redesign of automotive equipment along functional lines; and for the planning of a modern interregional highway system and urban express routes to accommodate the automobile of the future." It goes on to say that the highway transportation industry and federal and state governments "should undertake now the task of assuring the restoration of motor transport after the war on a modern and efficient basis." This would be done under the leadership of the proposed transportation agency, which would also be "directed to accept the unexampled challenge of air transportation by planning in the most enlightened manner for the establishment of the new medium as a major and integral part of our future transportation system."

In its discussions of methods of financing transportation plant, the report gives some pro and con arguments with respect to user charges, finally making this statement: "In general, however, it is believed that with such exceptions as defense needs and the development of new techniques, and new modes of transport, user charges offer the best means of financing the transportation plant."

The treatise on "Government Ownership and Operation of Railroads," written by Principal Economist Dewey, concludes that "public interest in government ownership and operation of railroads has recently revived in this country." Such "renewed interest" is attributed to "very practical, down-to-earth reasons," and not to any "material development of socialistic ideologies." In other words, as Mr. Dewey put it, it is based on "a conviction that government ownership may offer a feasible alternative to the traditional policy of regulating privately-owned railroads, since that policy has failed to accomplish rate, efficiency, and financial objectives desired by the public."

He next suggests that the present system of promoting transportation by public construction and aid "has created a competitive situation which raises doubts as to the ability of private managements to operate the railroads successfully." Seemingly, however, the answer in Mr. Dewey's opinion is not to halt the subsidies; rather, he suggests, "it may be necessary to nationalize the railroads in order to neutralize the effects of subsidies received by their competitors." If that is not done, he adds, "the railroads will continue their efforts to have legislative restrictions placed on their competitors"; and "to the extent that such efforts are successful, the protection of established interests will waste public investments already made in new facilities and keep rates high to shippers and travelers."

It seems to Mr. Dewey "likely that continued wastes, inefficiencies, and excessive duplication of rail facilities will not be voluntarily corrected under private, competitive management." He cites what he calls the "adverse reactions of the carriers and their employees" to the proposals of the federal co-ordinator of transportation as evidence of an "unwillingness or inability to introduce the degree of efficiency into rail operations demanded by the public." Also, he anticipated wartime car shortages, and suggested that "the government may not be able to rely upon private operation during wartime."

"If rail nationalization were adopted in this country," says one of Mr. Dewey's conclusions, "the government would be in a position to stabilize rail finances immediately and would make available badly needed capital for expansion and improvement at lower cost than is now possible through private channels. As owner and operator, the government would be able to make expeditious adjustments in the rate level with reference to the long-run considerations of the public welfare. Also, as owner and operator, the government would more effectively alter the relationships of rates in line with general public policy. Moreover, the average level of rates could be lowered by this policy. In addition to the financial and rate considerations, operating costs could be reduced by the elimination of such wastes as excessive round-about hauling and duplicated service. Efficiency could be promoted by pooling of cars and traffic and by unification of terminals. A nationalized system of railroads ought to yield savings of several hundred million dollars per year."

Mr. Dewey conceded that government

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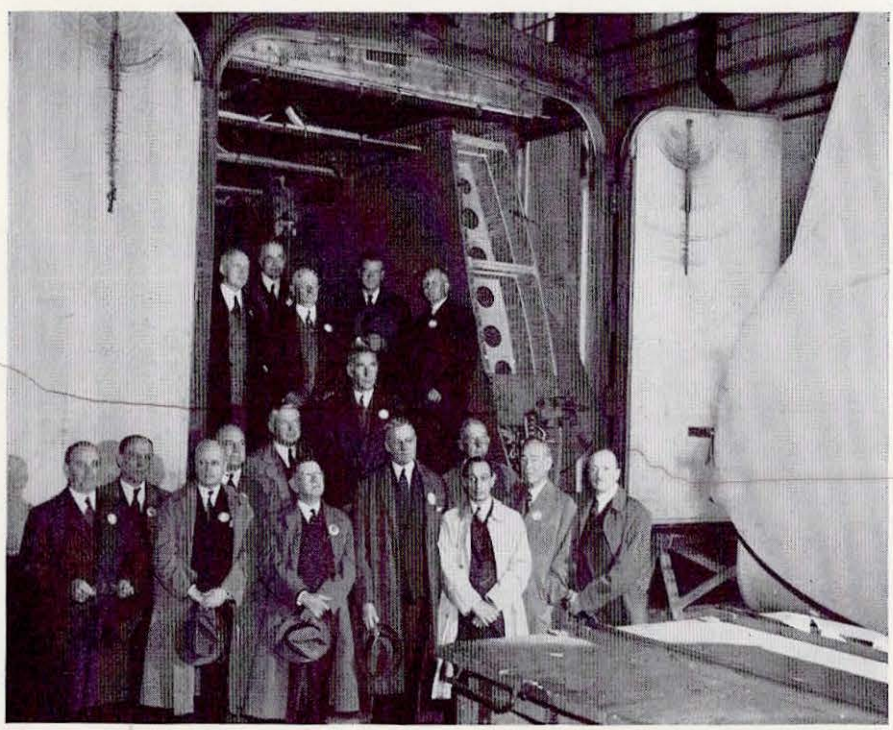

Directors of the Pullman Co. and Pullman-Standard Car Manufacturing Co. Look On While Aircraft Wings Made by the Latter Company Are Loaded into Box Cars for Shipment

Left to Right, Bottom Row: C. W. Seabury, H. M. Dudley, C. W. Wright, C. A. Liddle, George Whitney, Wallace N. Barker, R. L. Gordon, Ralph S. Euler. Middle Row: Champ Carry, H. H. Gilbert, Henry S. Sturgis, Arthur D. Choate. Top Row: J. Frank Drake, James F. Bell, David A. Crawford, Harold S. Vanderbilt, Sewell L. Avery.

acquisition of the railroads would involve financial difficulties and legal problems. In the former connection he listed the valuation to be placed on the properties as the major obstacle; but he was nevertheless willing to assert that "probably the railroads are not worth more than 14 billion dollars, on the average, as they are now organized and operated." He arrived at this by setting up the book value at 26 billion dollars against "the other extreme," i.e., that "rail securities in some recent years have been estimated to have a market value of less than 10 billion dollars."

In addition to Mr. Dewey's government ownership treatise, the report embodied discussions and special studies as follows:

Development of Transportation in the United States, by Ernest W. Williams, Jr., economist, NRPB.

The Transportation System Today, by G. Lloyd Wilson and Joseph L. White, consultants, NRPB.

Trends in the Transportation Industry, by Ernest W. Williams, Jr.

The Influence of Transportation on the Location of Economic Activities, by Edward S. Lynch, research assistant professor, Iowa State College, and consultant, NRPB.

Rates and Rate Structure, by D. Philip Locklin, professor of economics, University of Illinois, and consultant, NRPB.

The Nature of an Economical Division of Traffic, by Thor Hultgren, National Bureau of Economic Research, New York, formerly a member of I.C.C. staff.

Transport Coordination, by Ralph L. Dewey.

Economies from Railroad Consolidation and Coordination, by Burton N. Behling, director of the Transportation Board of Investigation and Research's study of public aids to carriers.

Railway Financing, 1890-1940, by W. H. S. Stevens, assistant director, Bureau of Statistics, I.C.C.

New Concepts in Transport Regulation, by James C. Nelson, principal economist, NRPB, on leave from position of senior transportation economist, Bureau of Agricultural Economics.

The Nature and Control of the Transport Market, by Burton N. Behling.

Transportation and Public Promotional Policy, by Wilfred Owen, consultant, NRPB.

The Role of Public Action in Transportation Abroad, by Ludwig M. Homberger, professor of transportation, The American University, Washington, D. C.

Special Studies

Air Transport, by J. Parker Van Zandt, consultant to Civil Aeronautics Board.

Coastwise, Intercoastal, and Great Lakes Shipping, by the Division of Economics and Statistics, U. S. Maritime Commission.

The Provision of Highway Facilities, by Wilfred Owen.

The Motor Transport Industry, by C. S. Morgan, E. V. Breitenbach, and J. O. Riley, assistant director, chief, Section of Accounts, and associate economic analyst, respectively, Bureau of Motor Carriers, I.C.C.

Inland Water Transport, prepared under the direction of Major General Julian L. Schley, former chief of engineers, U. S. Army.

Petroleum Pipe-Line Transportation, by G. Lloyd Wilson.

Railway Transport, by J. W. Barriger, III, associate director, Division of Railway Transport, Office of Defense Transportation.

The Position of Labor, by Edwin M. Fitch and Joseph M. Gillman, former chief statistician, and senior economic statistician, Bureau of Research and Information Service, Railroad Retirement Board.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soehbing, Railway Exchange Bldg., St. Louis, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. ular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—E. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Lorene Kindred, Room 847, 310 South Michigan Avenue, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. C. Millman, Ind. Agent, Pennsylvania R. R., Union Station, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 16-18, 1943, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Page N. Price, Norfolk & Western Magazine, Roanoke, Va.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Hunt, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y. Annual meeting, November 30-December 4, 1942, Hotel Astor, New York, N. Y. Railroad Division.—F. L. Woodward, *Railway Mechanical Engineer*, 105 West Adams St., Chicago, Ill.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C. Annual meeting, April 27-29, 1943, Netherland Plaza Hotel, Cincinnati, O.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Building, Washington, D. C.

Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.

Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3417, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 16-18, 1943, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 16-18, 1943, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Building, Washington, D. C.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division.—E. W. Coughlin, (Assistant to Chairman), Transportation Building, Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Building, Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Building, Washington, D. C.

Treasury Division.—E. R. Ford, Transportation Building, Washington, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Building, Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regcago, Ill.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kautheiser, Asst. to Vice Pres., C. B. & Q., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Baugher, 424 W. 33rd St., (11th floor), New York, N. Y.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York, N. Y. Regular meetings, second Friday of January, March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, No. Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. Annual meeting, November 10-12, 1942, Hotel Coronado, St. Louis, Mo.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September, and December, 29 W. 39th St., New York, N. Y. Annual dinner, December 10, 1942, Hotel Commodore, New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, Cal., and Hotel Hayward, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, O. and C. Company, 59 E. Van Buren St., Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 12 Hatfield Place, Port Richmond, Staten Island, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary) 122 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chi-

Equipment and Supplies

Pennsylvania Recovers 60,000 Tons of Steel Rail

Nearly 60,000 tons of steel rail were made available by the Pennsylvania in recent months to help swell the supply of steel required in the nation's war effort. The greater part of this rail was released as a result of the relaying of main-line trackage with new rail, much of it of heavier sections, made necessary by the greatly increased traffic. Some was recovered from side and yard tracks rendered unnecessary by changes in industrial conditions, and some also from several short branches which were no longer used and abandonment of which had been approved by the Interstate Commerce Commission.

Approximately one-half the tonnage of rail released by the railroad was still in serviceable condition, and was employed in the immediate laying of approximately 200 miles of track through the extension of railroad facilities to Army and Navy warehouses, cantonments, ship yards and other war industries. The rail was delivered by the railroad direct to the new users in various parts of the country, with the War Production Board sponsoring the projects and making the arrangements for distribution. Transfer of the rail to its new locations relieved steel mills of the burden of producing an equal quantity of new rail and materially speeded up essential war work. The remainder of the rail released was not suitable for re-use and was turned over to the steel mills for re-rolling, or for melting as scrap.

SIGNALING

THE NASHVILLE, CHATTANOOGA & ST. LOUIS has placed an order with the Union Switch & Signal Company covering the materials required for the installation of a centralized traffic control system between Hills Park and Junta, Ga., comprising 41 miles of single track and 2 miles of double track. The control machine will be located at Hills Park and provided with the necessary levers for the control of power-operated switches and signals at 26 end-of-siding locations and for the control of electric switch locks on 33 non-interlocked main track switches. The control machine will also be provided with continuous track indications for the entire territory and automatic train graph for OS record. The order involves Style M-22-B dual-control, low-control, low-voltage direct current switch layouts, Style SL-6 electric switch locks, color-light signals, necessary relays, transformers, rectifiers, coding units, housings, etc., etc. The field installation will be handled by the railway company's regular signal construction forces.

MOTOR VEHICLES

THE BRITISH COLUMBIA ELECTRIC RAILWAY COMPANY, LTD., received delivery on October 15 of four 31-passenger motor coaches from Twin Coach Co., Kent, O.

Supply Trade

The Simplex Radio division of the **Philco Corporation,** at Sandusky, Ohio, has received the Army-Navy "E" flag for high achievement in the production of war equipment.

William J. Brown, New York zone sales-manager of the original equipment division of the **Minneapolis-Honeywell Regulator Company,** has been transferred to the Brown Instrument Company division of Minneapolis-Honeywell in charge of expediting materials in the New York area.

The B. F. Sturtevant Company, Hyde Park, Boston, Mass., has opened a new branch plant at LaSalle, Ill., to serve as the company's mid-west production center, superseding the factory at Sturtevant, Wis., which was recently closed. The new plant will be operated by **J. F. Gibson** as superintendent under the supervision of **F. Herlan,** general manager of the company's mid-western division.

Gerard Swope, president of the General Electric Company, has been selected as the sixth recipient of the Hoover medal for 1942, which will be presented to him at the winter convention of the American Institute of Electrical Engineers during the week of January 25, 1943. The Hoover medal is administered by the Hoover Medal Board of Award, consisting of representatives of the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, and the American Institute of Electrical Engineers. It was formally instituted on April 8, 1930, during the celebration of the 50th anniversary of the American Society of Mechanical Engineers, to honor engineers whose pre-eminent services have advanced the well-being of mankind and whose talents have been devoted to the development of a richer and more enduring civilization. The first award was made to Herbert Hoover.

In a booklet issued to help men and women employees wind up their civilian affairs before entering the nation's service, the **Westinghouse Electric & Manufacturing Co.** reports that leaves of absence are being granted the following: Male employees drafted by the Army; men enlisting in the Army, Navy, Coast Guard, Navy Construction Battalion, Maritime Commission Cadet Corps, Army Specialist Corps and Merchant Marine. The same recognition is accorded women employees enlisting in the Women's Auxiliary Volunteer Emergency Service or signing up as nurses through the American Red Cross. These workers will be given leaves of absence lasting 6 months and 40 days after the end of the war, or 40 days following the date of honorable discharge, whichever occurs first.

In addition to information about Westinghouse jobs, the booklet provides the answers to many other questions arising in the minds of workers changing from civilian to military life. Topics discussed include installment purchases, insurance, allowances for dependents, income taxes, mortgages, rent, voting and the post-war status of the soldier. Westinghouse employees with one or more years of continuous service get an extra month's pay when they enter the armed forces.

Harry W. Renick has been appointed a vice-president of the Brake Shoe and Castings division of the **American Brake Shoe & Foundry Co.,** which position he will hold in addition to his present duties as vice-president of Brake Shoe's Ramapo Ajax division. Mr. Renick was born in Denver, Colo., and majored in civil engineering at Stanford University. After college he was employed with the Union Pacific and the Colorado & Southern in engineering and construction work. In 1913 he joined the Elliot Frog & Switch Co., now a part of Ramapo Ajax, and three years later was sent to St. Louis, Mo., as sales manager. In 1926, Mr. Renick was instrumental in opening Ramapo's first plant on the west coast at Los Angeles,

Harry W. Renick

Cal., for the manufacture of railroad frogs, switches, and special trackwork. He was placed in charge of this plant and, also, some time later, of a new plant at Seattle, Wash. When Ramapo Ajax became a Brake Shoe division, he was made vice-president in charge of the division's western plants at Los Angeles, Seattle and Pueblo, Ariz.

The American Forge division of the **American Brake Shoe & Foundry Co.** was presented with the Army-Navy "E" award for high achievement in the production of war equipment on October 24. The Forge division of Brake Shoe is producing parts for tanks and armored vehicles and shell forgings in the 75 mm. to 105 mm. range. The division pioneered in the production of shell forgings by the "upset" method in 1939, and W. E. Crocombe, president of American Forge, in accepting the Army-Navy award, stated that steel saved by this method of shell production in the two plants of the Forge division was the equivalent of 800 medium tanks. Col. Frank U. McCoskrie presented the Army-Navy "E" burgee to Mr. Crocombe and Lt. Comm. C. H. Soderstrom presented the lapel emblems to the employees. An unusual feature of the ceremonies was the presence of wounded servicemen from Pacific battlefronts who related experiences during the attacks on Pearl Harbor, Ha-

waii, Dutch Harbor, Alaska, and the U. S. S. Lexington.

OBITUARY

Nelson Jarvie Darling, manager of the General Electric Company's West Lynn and River works, died October 26 at Beach Bluffs, Mass., after an illness of a few months. He was 58 years of age.

Abandonments

ATCHISON, TOPEKA & SANTA FE.—This road and the Rocky Mountain & Santa Fe have been authorized by Division 4 of the Interstate Commerce Commission to abandon operation of and to abandon, respectively, a branch from Raton, N. M., to Sugarite, 5.79 miles.

In a proposed report in F. D. 13788 Examiner F. E. Grutzik recommends that the commission authorize this road to abandon operation of, and the Rock Mountain & Santa Fe to abandon, a branch from Koehler Junction, N. M., to Ute Park, 39.58 miles.

BOSTON & MAINE.—The Interstate Commerce Commission, Division 4, has denied this road's application for authority to abandon part of a branch from Bedford, Mass., to Concord (T), 3.85 miles, on the ground that it has not been operating at a loss and traffic is likely to increase in the future.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—This road has applied to the Interstate Commerce Commission for authority to abandon its 16.8-mile line between Woodruff, Wis., and Star Lake.

DELAWARE & HUDSON.—The Greenwich & Johnsonville has applied to the Interstate Commerce Commission for authority to abandon its line from Greenwich, N. Y., to Northumberland, 0.721 miles.

FORT WORTH & DENVER CITY.—Division 4 of the Interstate Commerce Commission has authorized this company and the Fort Worth & Denver South Plains to abandon operation of and to abandon, respectively, a branch 1.38 miles in length within the corporate limits of Lockney, Tex.

GREAT NORTHERN.—Authority has been granted this road by Division 4 of the Interstate Commerce Commission to abandon its line from Elbow Lake, Minn., to Tintah, 16.22 miles. That part of the application which sought permission to abandon the line from Evansville, Minn., to Elbow Lake,, another segment of the same branch, was dismissed without prejudice after the applicant requested that it be held in abeyance.

NEW YORK CENTRAL.—This road, the St. Joseph, South Bend & Southern and the Michigan Central have filed with the Interstate Commerce Commission a joint application seeking authority to abandon and abandon operation of the St. J., S. B. & S.'s 25-mile line extending from a connection with the N. Y. C. in Portage Township, Ind., westerly and northerly to a point in Baroda Township.

LOUISVILLE & NASHVILLE.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a branch from a point near Duane, Ky., to a point formerly called Pioneer station, about 1.04 miles, and a segment of a branch extending from a point near Madisonville, Ky., to Como, about 1.8 miles.

MISSOURI PACIFIC.—The Sugar Land has applied to the Interstate Commerce Commission for authority to abandon its 11.7-mile line between Cabell, Tex., and Hickey.

PENNSYLVANIA.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a segment of its Alexandria branch from a point south of New Alexandria, Pa., to its terminus, 3.1 miles, and a segment of its Dundale branch extending about 0.32 mile west of its connection with the said Alexandria branch. Both abandonments result from prospective submergence due to flood control measures, and the affected segment of the Dundale branch will be relocated so operation may continue.

PENNSYLVANIA.—This road has applied to the Interstate Commerce Commission for authority to abandon small segments (totaling 6.93 miles) of branch lines in Pennsylvania. The lines involved are: Amesville Branch No. 3, from a point near West Moshannon to end, 0.86 mi.; Liveright Branch, from a point near South Clearfield to end, 0.53 mi.; Bute Run Branch, from Vance Mill Junction to end, 2.45 mi.; Dundale Branch, from Allsworth to Dundale, 0.76 mi.; Philipsburg Branch, from Valuation Station 91 plus 40 to end, 1.58 mi. in Clearfield County; Amesville Branch No. 1, from Valuation Station 83 plus 80 to end, 0.75 mi. in Clearfield County.

SEABOARD AIR LINE.—This road and the Tampa & Gulf Coast have applied to the Interstate Commerce Commission for authority, respectively, to abandon operation of and abandon the latter's lines between Lake Villa, Fla., and Tarpon Springs, 3.1 miles; and between Elfers, Fla., and New Port Richey, 2.3 miles.

TEXAS & PACIFIC.—This road has applied to the Interstate Commerce Commission for authority to abandon operation of and dismantle its Texarkana, Shreveport and Natchez branch between Texarkana, Tex., and Shreveport, La., 72 miles.

UNION PACIFIC.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon operation of, and the Oregon Short Line to abandon, a branch from Sugar City, Idaho, to Hinckley, 4.41 miles.

CAST IRON GARGOYLES which for 72 years have decorated the window-arches of the combined Queen City Hotel and the Baltimore & Ohio station buildings at Cumberland, Md., have gone into the nation's war scrap pile, according to the B. & O. magazine. The buildings, erected in 1870, had 78 of the decorative iron pieces, one at the top of each window arch. The total yield was 2,184 lb. of scrap.

Financial

ALABAMA GREAT SOUTHERN.—*Bonds.*—This road has applied to the Interstate Commerce Commission for authority to sell 25-year 3¼ per cent first mortgage bonds, series A, in the amount of $9,500,000 from the new $15,000,000 issue which was recently authorized by its stockholders, as noted in the *Railway Age* of October 31, page 714. As also noted there, the proceeds will be used to meet December 1 maturities; while the application reveals that the sale has been made subject to I. C. C. approval to a syndicate headed by Solomon Bros. & Hutzler, whose bid of 98.577 per cent of par and accrued interest was the highest received. The bonds will be dated November 1, 1942, and will mature on November 1, 1967; they will be redeemable in part on any interest date or as a whole on 30-days notice if the redemption date is an interest date, and on 60-days notice if it is not. Redemption prices range from 103⅝ to par.

BALTIMORE & OHIO.—*Merger of Pittsburg & Western and Pittsburgh Junction.*—Division 4 of the Interstate Commerce Commission has authorized the Pittsburg & Western to acquire ownership, management and operation of the Pittsburgh Junction, which company will be dissolved. Both companies are subsidiaries of the Baltimore & Ohio, and the merger will result in simplification of corporate structure.

To give effect to this merger the Pittsburgh Junction is authorized to issue a refunding and general mortgage bond in an amount not to exceed $2,240,000, and the Pittsburg & Western is authorized to assume liability with respect to Pittsburgh Junction bonds in the amount of $8,466,500, to issue a refunding and general mortgage bond in an amount not to exceed $13,499,900 to retire matured bonds, and to issue capital stock of a par value of $1,940,000, all of which new issues are to be delivered to the Baltimore & Ohio.

BOSTON & MAINE.—*Acquisition of the Franklin & Tilton.*—Division 4 of the Interstate Commerce Commission has authorized this company to purchase the property of its subsidiary, the Franklin & Tilton, by cancellation of its stock and dissolution.

MAINE CENTRAL.—*Preferred Stock Dividend.*—The Maine Central on October 29 declared a preferred stock dividend of $9 per share, payable November 5. The payment covers all arrearage of accumulated and unpaid dividends on this class of stock up to January 1, 1939, leaving an unpaid accumulation of $24 per share as of January 1, 1943.

MISSOURI PACIFIC.—*Court Considers Repayment of RFC.*—The United States district court at St. Louis, Mo., on October 30 took under advisement a motion by the Missouri Pacific asking authorization for the repayment of the railroad's debt to the Reconstruction Finance Corporation amounting to $23,134,800, plus interest. (See *Railway Age,* October 10, page 587.)

MISSOURI PACIFIC.—*Acquisition by Missouri Pacific in Nebraska.*—The Interstate

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STEAM POWER IS STILL SUPREME

Food will help win the war!

IT MUST BE KEPT MOVING

Because of the tremendous demands being made upon American agriculture today . . . providing food for us, our fighting men and our allies . . . it is vitally essential that the products of the Mid-West — its wheat, corn, livestock, etc., — reach the markets of America and the world.

In this job the railroads are playing an important part Illustrated above is one of the Kansas City Southern Railroad's 2-10-4 type fast freight locomotives. Built by Lima Locomotive Works, these modern Steam Locomotives are daily hauling essential food products to domestic markets and to docks and wharves for transshipment to our allies and fighting men.

Steam Power is still supreme . . . helping to keep the United Nations' "larders" filled.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

Commerce Commission, Division 4, has authorized the Missouri Pacific in Nebraska to purchase and operate a part of the former Hastings branch of the Chicago & North Western, extending from Hastings, Neb., easterly 1.65 miles, which that road had been authorized to abandon, and which the WPB had requisitioned. The line affected gives access to a war plant, and its rail and fastenings have been allocated to the applicant by the WPB.

NEW YORK CENTRAL. *Acquisition.*—The Interstate Commerce Commission, Division 4, has authorized this company to purchase a line extending from a point 1.2 miles north of Newton Falls, N. Y., to Clifton Mines, 8.95 miles, which was built by the Clifton Ore Company to gain access to iron ore deposits.

READING.—*Bonds.*—Division 4 of the Interstate Commerce Commission has dismissed at the request of the applicant this road's request in Finance Docket 13921 for authority to procure the authentication and delivery of not more than $3,677,000 of 3½ per cent general and refunding mortgage bonds, series D.

MISSOURI PACIFIC.—*Executive Committee Chairman Accuses Financial Institutions.*—In a letter dated October 27 to United States Senator James J. Davis, which was ordered printed in the Congressional Record, Colonel J. C. Davis, chairman of the executive committee of the Missouri Pacific, accused a "closely-knit" group of life insurance companies and banks of seeking to obtain control of the reorganized Missouri Pacific who, in doing so, threatened "(1) To withhold many millions of dollars in cash which should immediately be paid to the Reconstruction Finance Corporation in liquidation of debt, thereby becoming available to the furtherance of the war program; and (2) by an ingenious utilization of current rail-reorganization procedure to acquire control of a number of now competitive major rail systems in the hands of this same closely-knit group of financial institutions; and (3) a large-scale destruction of bona fide investment values in rail securities without financial justification."

The letter referred to statements made on the floor of the Senate earlier this month by Senator Wheeler criticizing the bringing of pressure in reorganizations by "speculators who are buying up railroad securities" and by Senator Truman that the Alleghany Corporation was interfering in the Missouri Pacific reorganization, and went on to say "The impression that Alleghany Corporation is a speculator in the securities of Missouri Pacific is not true.

"The Alleghany Corporation invested more than $100,000,000 in the purchase of Missouri Pacific securities, which were issued with the approval of the Interstate Commerce Commission—all several years prior to the initiation of bankruptcy proceedings in 1933. Official records on file with the Securities and Exchange Commission disclose that Alleghany Corporation has not purchased a single security in the Missouri Pacific or any other railroad or public utility in bankruptcy proceedings."

WILKES-BARRE & EASTERN.—*Reorganization Fees.*—Division 4 of the Interstate Commerce Commission has set a maximum limit of $6,000 on compensation for Leo W. White, counsel for the trustee in the reorganization of this company.

Average Prices of Stocks and Bonds

	Nov. 4	Last week	Last year
Average price of 20 representative railway stocks..	30.26	29.68	29.51
Average price of 20 representative railway bonds..	68.87	68.53	65.03

Dividends Declared

Cleveland & Pittsburgh.—87½¢, quarterly; Special Guaranteed, 50¢, quarterly, both payable December 1 to holders of record November 20.

Great Northern.—Preferred, $1.00, payable December 10 to holders of record November 10.

Gulf, Mobile & Ohio.—$5.00 preferred (year end); $2.50, payable December 15 to holders of record December 1.

Maine Central.—6 Per Cent Prior Preferred, $9.00, payable November 5 to holders of record November 2.

Nashville, Chattanooga & St. Louis.—Irregular, $3.00, payable December 1 to holders of record November 12.

Norfolk & Western.—$2.50, quarterly, payable December 19 to holders of record November 30.

Reading Company.—4 Per cent Non-cumulative First Preferred, 50¢, quarterly, payable December 10 to holders of record November 19.

Construction

ILLINOIS CENTRAL.—The Kentucky Department of Highways has awarded a contract amounting to approximately $106,400 to Nally and Mudd, Springfield, Ky., for the construction of a highway bridge over the Illinois Central and old U. S. Highway No. 31-W on the Ft. Knox-Brandenburg Station road. The bridge will consist of three 50-ft. and one 173-ft. continuous concrete girder spans and will have a roadway width of 26 ft.

LOUISVILLE & NASHVILLE.—The Tennessee Valley authority has asked the War department for approval of plans for alteration of the L. & N. bridge crossing the Tennessee river near Danville, Tenn.

NATIONAL RAILWAYS OF MEXICO.—Work will begin immediately on the construction of 225 kilometers (139.8 miles) of new line between Magosal, Ver. C., and Apulco, Hgo. The new line will provide a route between Mexico City and Tampico, Tam., via Pachuca, Hgo., and Apulco 329 kilometers (204.4 miles) long, a saving of 414 kilometers (257.3 miles), as compared to the present route via San Luis Potosi, S. L. P. Construction is expected to be completed within a period of three years.

WAR DEPARTMENT.—The U. S. Engineer Office, Vicksburg, Miss., has awarded a contract in amount between $1,000,000 and $5,000,000 which includes the construction of railroad track facilities in Mississippi. Other work in this contract includes the construction of temporary frame buildings, sewage systems, clearing and grubbing, aprons, runways, roads and drainage.

Railway Officers

EXECUTIVE

H. J. Humphrey, vice-president and general manager of the Eastern lines of the Canadian Pacific, has been appointed vice-president in charge of lines East of Port Arthur, Ont., with headquarters as before at Toronto, Ont.

Seaborn DeWitt Hurst, Jr., whose appointment as assistant to the president of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was announced in the *Railway Age* of October 31, was born on February 24, 1898, at Stillmore, Ga. Mr. Hurst was graduated from the Georgia-Alabama Business College at Macon, Ga., in 1916, and entered railway service on September 1, 1916, as stenographer in the office of the superintendent of motive power of the Atlantic Coast Line, at Waycross, Ga., being promoted to secretary to

Seaborn D. Hurst, Jr.

the assistant general superintendent of transportation at Wilmington, N. C., on January 26, 1920. Subsequently, between April 27, 1920, and October 22, 1936, he served in the offices of the vice-president and general manager as contract clerk, secretary and chief clerk. He was appointed assistant to the general manager on October 23, 1936, and served in this capacity until August 1, 1942, when he became assistant to the executive vice-president, the position he held at the time of his recent appointment.

George T. Carmichael, whose appointment as vice-president and comptroller of the New York, New Haven & Hartford, with headquarters at New Haven, Conn., was announced in the *Railway Age* of October 31, was born on December 10, 1889, at New Haven, Conn. He was educated in the New Haven public schools and was graduated from the Yale Business college in 1907. Mr. Carmichael entered railway service in October, 1908, as a clerk in the office of the auditor of disbursements of the New York, New Haven & Hartford, advancing, in April, 1914, to chief clerk,

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how to help us serve the RAILROADS better

Franklin Railway Supply Company is 100% in war production. Part of this consists of supplying the railroads' needs and the remainder is on direct war contracts.

To insure prompt delivery of repair parts Franklin needs the railroads' help.

here's how

1. Make application for the highest priority to which you are entitled. If this is not received with your order we must ask for an amendment. This means delay in shipping the needed parts.

2. The ordering of small numbers of frequently used repair parts wastes man-power and machine time. Order parts in reasonable quantities. Not more than you require for a normal inventory but not by twos and threes.

Large numbers of small individual orders slow up the supply of everyone's needs. Alterations must be made in machine settings, dies must be changed, thereby slowing down the whole production operation. Purchasing of fabricating materials in small quantities further complicates and delays deliveries.

3. Another procedure that delays deliveries is the ordering of parts that are not within the range of the standard dimensions. A sufficient range of sizes is provided for every repair part to cover 95% of the railroads' requirements. Ordering parts with dimensions outside these standards not only slows production of other repair parts but results in delay in obtaining the special part.

By cooperating in these three requests the railroads are enabling Franklin not only to supply them with parts more promptly but to step up the tempo of Franklin's contribution to the war effort.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: **FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL**

statistical accountant. In June, 1914, he became valuation auditor, and in July, 1918, was appointed assistant to the federal auditor. He served in the latter capacity until March, 1920, when he was appointed to the position of assistant to the comptroller. Mr. Carmichael became general auditor in June,

George T. Carmichael

1920, and was elected comptroller of the New York, New Haven & Hartford and its various subsidiaries on November 1, 1934, remaining in this capacity until his recent promotion. Mr. Carmichael is also a director of the Connecticut Company and of the Realty Hotels, Inc., of New York. He was elected chairman of the Accounting division of the Association of American Railroads at its annual meeting in June, 1941, at Denver, Colo. Though normally the term of office is one year, due to the war emergency, new officers have not been chosen and Mr. Carmichael is continuing as head of the division. At present, he is also general chairman of the Railway Express Contract Accounting Committee, and a member of the National Railroad Committee for the Study of Transportation.

OPERATING

J. W. Sims has been appointed trainmaster of the Mobile division of the Southern, with headquarters at Selma, Ala.

E. D. Cotterell, acting assistant general manager of the Eastern lines of the Canadian Pacific, has been promoted to general manager of the Eastern lines, with headquarters as before at Toronto, Ont.

D. J. Callahan, chief clerk of the general manager of the Northwestern district of the Union Pacific at Portland, Ore., has been promoted to assistant to the general manager, with the same headquarters, a newly created position.

W. J. McMahan, agent and terminal trainmaster of the Chicago, Milwaukee, St. Paul & Pacific at Seattle, Wash., has been promoted to the newly created position of assistant superintendent of the Coast division, with the same headquarters. The position of terminal trainmaster at Seattle has been abolished.

W. H. Kyle, division engineer of the Canadian National, has been appointed acting superintendent of the Montreal terminals, with headquarters as before at Montreal, Que., succeeding **J. F. Connolly,** promoted. **R. M. Macdonald** has been appointed assistant superintendent of the Montreal Terminals, also with headquarters at Montreal.

R. D. Rifenburgh has been appointed District Manager of the Car Service Division, Association of American Railroads, with headquarters at Detroit, Mich., succeeding R. S. Harlan, transferred. Mr. Rifenburgh's former position as District Manager at Dallas, Tex., has been filled by the promotion of **C. P. Wasson,** who has been Car Service Agent at that point.

Walter L. Ennis, manager of refrigerator service and claim prevention of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, has been promoted to assistant to the chief operating officer, with the same headquarters, in charge of claim prevention, refrigerator and merchandise service. The position of manager of refrigerator service and claim prevention has been abolished. Mr. Ennis was born in Chicago on June 11, 1891, and attended business college. He was employed in various positions, mostly in con-

Walter L. Ennis

nection with wholesale produce until 1910, when he entered railway service as a fireman of the New York, Chicago & St. Louis (Nickel Plate). In 1913 he went with the Illinois Central as a brakeman and a year later went with the Chicago, Burlington & Quincy as a perishable inspector. He left railroad service in 1917 to start his own produce business and from February, 1918, to July, 1919, he served in the U. S. Army, becoming a sergeant in the 39th Engineers and spending 13 months in France. Upon his return, he became a traveling inspector for the Milwaukee and in September, 1920, he was advanced to superintendent of refrigerator service. Mr. Ennis was promoted to manager of refrigerator service and claim prevention in February, 1930, which position he held until his recent promotion, effective November 1.

Z. T. Komarek, trainmaster of the New York, Chicago & St. Louis (Nickel Plate) at Ft. Wayne, Ind., has been promoted to assistant to the general manager, a newly created position, with headquarters at Cleveland, Ohio. **E. F. Peters,** trainmaster at Lima, Ohio, has been transferred to Ft. Wayne, succeeding Mr. Komarek, and **C. W. Hecker,** trainmaster at Peru, Ind., has been transferred to Lima, relieving Mr. Peters. **R. A. Gleason** has been appointed trainmaster at Peru, replacing Mr. Hecker.

A. J. Smith, trainmaster of the Atchison, Topeka & Santa Fe at Needles, Cal., has been promoted to assistant superintendent at that point, a newly created position. **E. R. Robertson,** assistant to the general superintendent of transportation at Chicago, has been appointed trainmaster at Needles, succeeding Mr. Smith. **G. A. Alexaander,** yardmaster at Argentine, Kan., has been advanced to assistant to the general superintendent of transportation at Chicago, relieving Mr. Robertson. **Paul T. Collins,** trainmaster at Winslow, Ariz., has been transferred to San Bernardino, Cal.

H. D. Walker, trainmaster of the Illinois Central at Paducah, Ky., has been transferred to Louisville, Ky., succeeding **Walter E. Davis,** whose promotion to superintendent of the Louisiana division, with headquarters at McComb, Miss., was reported in the *Railway Age* of October 31. **C. E. Bartholomew,** assistant trainmaster at Madisonville, Ky., has been advanced to trainmaster at Paducah, replacing Mr. Walker. **H. E. Green,** transportation inspector at Chicago, has been promoted to trainmaster at McComb, relieving **Clyde J. Fitzpatrick,** whose promotion to superintendent of the Springfield division, with headquarters at Clinton, Ill., was also reported in the *Railway Age* of October 31.

D. W. Naff, safety agent of the Norfolk & Western, has been promoted to superintendent of safety, with headquarters at Roanoke, Va., succeeding **C. H. Blakemore,** who has retired after 45 years of service with the Norfolk & Western. Mr. Blakemore, a pioneer in railroad safety practices, is widely known in rail circles for his work. Soon after the organization of the railway safety movement in 1913, he was appointed vice-chairman, and in the following year, chairman, of the railroad's Safety Commission. Since then, the Norfolk & Western's casualty rate has been improved more than 90 per cent and the road has received national recognition for its safety record. In 1915, when the Scioto division was declared the safest railroad division in the United States, the Harriman Silver Memorial Medal was awarded to the road. In 1926, 1938 and 1940, it won the coveted Harriman Gold Memorial Medal for the "utmost progress in safety and accident prevention." Last year the Norfolk & Western was awarded first honors in the Railroad Employees National Safety Contest, which was sponsored by the National Safety Council.

MECHANICAL

Arthur Meehan has been appointed road foreman of engines of the Canadian National, with headquarters at Riviere a Pierre, Que.

H. E. Anderson, assistant division master mechanic of the Atchison, Topeka & Santa Fe at La Junta, Colo., has been

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FUEL

a strategic material

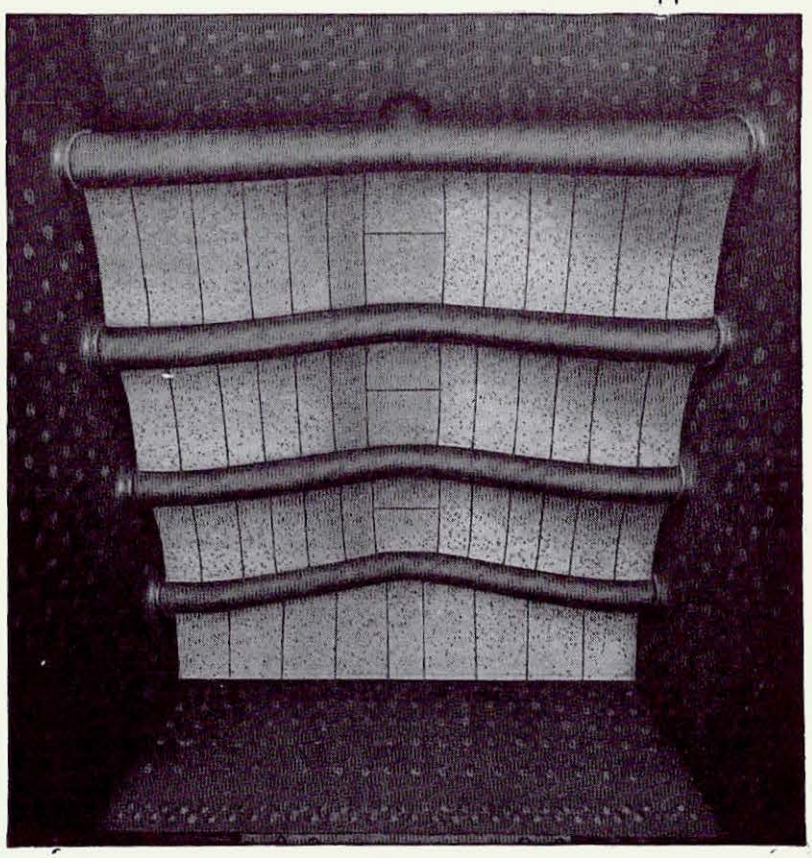
CONSERVED

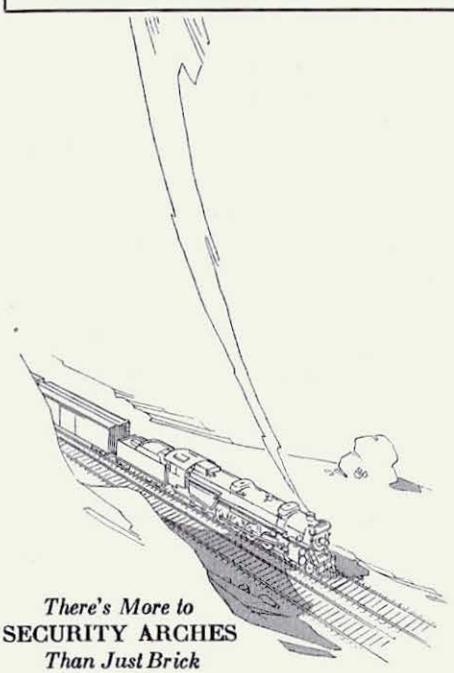
with Security Sectional Arches

Today, more than ever, fuel is one of our strategic materials. Making every pound of fuel produce the maximum amount of steam not only conserves this strategic material but also the cars required to transport it.

For over 32 years, Security Sectional Arches have been saving fuel on all types of steam locomotives.

But experience has proved that only with a *complete* Arch can maximum fuel economy be realized.

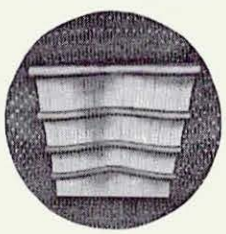




There's More to
SECURITY ARCHES
Than Just Brick

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

promoted to master mechanic of the Western division, a newly created position, with headquarters at Dodge City, Kan.

A. P. Gilsdorf, car foreman of the Norfolk & Western at Lambert Point, Va., has been promoted to general car inspector, with headquarters at Roanoke, Va., succeeding **R. H. Dyer,** who has retired. Mr. Dyer had been employed by the Norfolk & Western since 1895.

W. Q. Daugherty, master mechanic of the Gulf, Mobile & Ohio at Jackson, Tenn., has been promoted to assistant superintendent of motive power and car equipment, with the same headquarters, and **J. A. Dempster** has been appointed master mechanic at Jackson, succeeding Mr. Daugherty.

TRAFFIC

F. B. Vandergrift, general southern freight agent of the Pennsylvania at Atlanta, Ga., has been promoted to division freight agent at Williamsport, Pa. He held his former position for 4½ years. **W. S. Merrick,** district freight agent at Albany, N. Y., succeeds Mr. Vandergrift.

John P. Heavers, general agent of the Minneapolis & St. Louis at Chicago, has been promoted to assistant general freight agent, a newly created position, with same headquarters and **J. J. Grogan,** traveling agent at Birmingham, Ala., has been advanced to general agent at Chicago, succeeding Mr. Heavers.

James T. Lean, foreign freight agent of the Baltimore & Ohio and the Alton at Chicago, has been appointed district freight agent of the Baltimore & Ohio, with headquarters at Baltimore, Md., succeeding **Edward S. King,** who has retired after more than 55 years of service with this company. **Frank M. White, Jr.,** has been appointed foreign freight agent at Chicago, succeeding Mr. Lean.

John P. Kilty, assistant general passenger agent of the Chicago, Rock Island & Pacific, has been promoted to manager of mail, baggage and express traffic, with headquarters as before at Chicago, succeeding **Frederick C. Francis,** whose retirement on November 1 was reported in the *Railway Age* of October 31. **Robert E. King,** general agent, passenger department, at Detroit, Mich., has been advanced to assistant to the general passenger agent at Chicago and **Harry P. Buchanan,** traveling passenger agent at Des Moines, Iowa, has been promoted to general agent, passenger department at Detroit, relieving Mr. King.

Mr. Kilty was born in Chicago and entered Rock Island service in May, 1910, as a clerk in the accounting department. In 1918 he was promoted to chief clerk of mail, baggage and express traffic and in 1923 he was advanced to assistant manager of mail, baggage and express traffic. Mr. Kilty was appointed assistant general passenger agent at Chicago in 1937, which position he held until his recent promotion, effective November 1.

L. Emerson Wetterau, whose promotion to executive general agent of the Southern, with headquarters at Birmingham, Ala., was reported in the *Railway Age* of October 31, was born at Tamaqua, Pa., in 1894, and graduated from Girard college, Philadelphia, Pa. He entered railway service with the Southern in 1910, and held various clerical positions at Richmond, Va., and Chattanooga, Tenn. During World War I he served two years with the U. S. Army, and after his discharge in 1919, he returned to the Southern, serving as freight traffic representative at Richmond and Norfolk, Va. In 1920 he was transferred to New Orleans, La., as chief clerk in the office of the foreign freight agent, later being appointed foreign freight agent. On August 1, 1922, Mr. Wetterau was appointed foreign agent at New York. From there he went to Lynchburg, Va., as division freight agent in 1929; to Knoxville, Tenn., as assistant general freight agent in 1934; and to New Orleans as assistant freight traffic manager in 1937. On September 1, 1938, he was transferred to Birmingham, holding that position until his recent promotion, effective November 1.

ENGINEERING & SIGNALING

R. D. Tobien, assistant general manager of the Western lines of the Southern at Birmingham, Ala., has been promoted to assistant to the chief engineer, with headquarters at Washington, D. C.

W. T. Donoho, assistant engineer of the Gulf, Colorado & Santa Fe at Galveston, Tex., has been promoted to the newly created position of district engineer, with the same headquarters.

C. R. Swenson, superintendent of telegraph and signals of the Chicago, Rock Island, & Pacific, has been appointed signal engineer, with headquarters as before at Chicago, and **C. O. Ellis,** assistant superintendent of telegraph and signals, has been promoted to superintendent of telegraph, with the same headquarters.

W. E. Ross, assistant engineer of the Chicago, Milwaukee, St. Paul & Pacific at Terre Haute, Ind., has been promoted to division engineer at Ottumwa, Iowa, succeeding **R. A. Whiteford,** who has been transferred to Marion, Iowa. Mr. Whiteford relieves **H. Wuerth,** who has been transferred to Savanna, Ill., replacing **H. B. Christianson,** who has been commissioned a lieutenant-colonel in the U. S. Army.

OBITUARY

George G. Beltzhoover, who retired on March 1, 1926, as special passenger agent of the Pennsylvania at Chicago, died on October 29, at his home in that city. He was 86 years of age.

Edwin W. Norris, master mechanic of the Frankfort & Cincinnati, with headquarters at Frankfort, Ky., died of a heart ailment at a hospital in that city on October 25.

Gen. Enrique Estrada, general manager of the National Railways of Mexico, with headquarters at Mexico, D. F., who had been granted a leave of absence because of illness, as reported in the *Railway Age* of October 31, died on November 3 at the age of 53. General Estrada was minister of war for Mexico under President Adolfo de la Huerta in 1920 and fought various rebel groups. In 1923 he was the leader of a revolution against President Alvaro Obregon and later fled to the United States. General Estrada later returned to Mexico and in January, 1941, President Camacho appointed him general manager of the National Railways of Mexico under a law abolishing the Worker's Administration and creating a de-centralized government corporation for the administration of those lines. Under General Estrada many experienced railway officials were brought back, discipline was improved and the efficiency of operations was also improved.

Norman M. McMillan, assistant general manager of the Eastern lines of the Canadian Pacific at Toronto, Ont., who had recently been granted a leave of absence, died on October 29, at Toronto, following a heart attack. Mr. McMillan was born on July 4, 1892, at Toronto and entered railroad service in August, 1909, as a ticket clerk of the Chicago, Rock Island & Pacific at Des Moines, Iowa. From

Norman M. McMillan

April, 1911, to August, 1912, he was a stenographer of the Denver North Western & Pacific (now Denver & Rio Grande Western) at Denver, Colo. Mr. McMillan entered the service of the Canadian Pacific in August, 1912, as ticket clerk at Toronto and served successively as stenographer and secretary to general superintendent at Toronto, secretary to assistant general manager at Montreal, Que.; clerk, assistant chief clerk and chief clerk in the office of the general manager at Montreal, assistant superintendent and then superintendent of the Trenton division at Toronto, superintendent of the Bruce division at Toronto, and assistant to general manager of the Eastern lines at Montreal. He served as assistant to vice-president and general manager of the Eastern lines at Montreal from September to October 3, 1934, when he became general superintendent of the Ontario district at Toronto. Mr. McMillan was appointed assistant general manager in February, 1941.

Table of Revenues and Expenses begins on next left-hand page

Planes from *"Shangri-la"**

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Akron, Canton & Youngstown	Sept.	171	$300,657	$69	$317,204	$66,619	$31,917	$15,602	$82,315	$208,146	65.6	$109,058	$75,278	$58,923	$44,772
	9 mos.	171	2,401,370	730	2,506,700	470,480	266,595	136,771	719,757	1,697,404	67.7	809,296	570,985	441,294	543,806
Alton	Sept.	959	2,026,012	532,170	2,809,288	299,439	390,306	52,704	968,758	1,809,530	64.4	999,758	616,183	470,759	167,995
	9 mos.	959	16,205,444	3,695,407	22,161,961	2,325,404	3,023,516	449,728	7,784,854	14,450,367	65.2	7,711,594	4,956,472	3,245,242	1,443,290
Atchison, Topeka & Santa Fe System	Sept.	13,193	25,475,594	5,753,066	33,204,181	3,397,224	4,689,943	494,501	8,408,370	17,427,976	52.5	15,776,205	9,470,592	9,144,740	4,259,371
	9 mos.	13,345	203,855,234	33,919,525	253,615,073	26,460,370	39,550,343	4,320,866	69,734,767	144,032,197	56.8	109,582,876	55,236,675	53,206,712	29,878,287
Atlanta & West Point	Sept.	93	222,529	119,364	377,856	37,693	37,892	9,864	104,646	204,371	54.1	173,485	93,958	74,653	31,919
	9 mos.	93	1,823,559	700,126	2,796,348	254,611	316,315	83,844	983,590	1,673,627	59.9	1,122,721	605,701	441,027	158,159
Western of Alabama	Sept.	133	269,334	122,102	425,681	33,725	48,200	9,096	116,626	221,340	52.0	204,341	107,078	97,883	43,865
	9 mos.	133	2,085,881	720,217	3,077,922	272,954	388,709	81,174	921,067	1,779,501	57.8	1,298,421	663,814	610,198	206,950
Atlanta, Birmingham & Coast	Sept.	639	502,373	34,746	562,656	78,057	65,069	25,264	192,499	378,608	67.3	184,048	104,593	78,891	34,813
	9 mos.	639	3,729,820	304,731	4,259,343	523,105	575,033	236,582	1,661,560	3,155,428	74.1	1,103,915	605,317	315,822	192,850
Atlantic Coast Line	Sept.	5,008	6,542,750	2,472,469	9,581,808	663,346	1,418,785	160,542	2,627,373	5,164,160	53.9	4,417,648	1,417,648	1,302,796	818,106
	9 mos.	5,008	57,759,932	17,373,644	79,917,004	5,697,879	12,330,941	1,580,506	23,816,714	46,031,557	57.6	33,885,447	17,330,447	15,091,367	9,190,149
Charleston & Western Carolina	Sept.	343	297,115	18,617	322,063	30,863	44,072	9,803	97,486	188,196	58.4	133,867	58,867	60,844	26,917
	9 mos.	343	2,761,594	91,246	2,910,687	300,897	409,519	90,038	884,023	1,740,548	59.8	1,170,139	665,139	646,845	641,534
Baltimore & Ohio	Sept.	6,248	22,901,543	2,760,794	27,130,188	2,641,147	5,178,609	452,173	8,378,237	17,523,067	64.6	9,607,121	6,196,904	5,384,317	4,967,923
	9 mos.	6,257	192,892,025	18,550,792	221,961,871	19,792,197	46,853,128	4,113,708	71,664,392	149,835,660	67.5	72,126,211	47,693,814	42,389,996	37,959,306
Staten Island Rapid Transit	Sept.	24	164,552	96,133	271,849	41,289	23,973	1,313	90,191	174,431	64.2	97,418	71,037	62,946	—1,065
	9 mos.	24	1,023,793	768,314	1,875,905	159,644	231,519	10,929	810,329	1,343,401	71.6	532,504	283,357	194,133	—116,463
Bangor & Aroostook	Sept.	603	243,851	68,966	338,681	103,542	96,315	5,956	117,400	351,526	103.8	—12,845	—26,210	13,881	41,075
	9 mos.	603	4,154,617	428,090	4,806,016	892,804	852,288	54,622	1,320,652	3,362,232	70.0	1,443,784	766,404	954,541	967,209
Bessemer & Lake Erie	Sept.	214	2,195,263	1,107	2,209,844	208,074	531,839	12,565	329,197	1,116,319	50.5	1,093,525	291,605	369,152	585,977
	9 mos.	214	16,295,195	7,957	16,427,200	1,421,173	5,060,363	120,933	2,722,592	9,671,373	58.9	6,755,827	1,936,694	2,690,716	6,296,847
Boston & Maine	Sept.	1,860	4,687,230	1,341,686	6,636,049	898,940	962,606	68,469	2,121,977	4,246,615	64.0	2,389,434	1,497,457	1,232,330	951,105
	9 mos.	1,864	41,316,241	10,534,404	56,883,762	6,897,313	8,209,421	637,328	19,038,021	36,527,496	64.2	20,356,266	12,813,427	10,197,054	7,912,416
Burlington, Rock Island	Sept.	228	144,087	42,646	199,316	21,506	22,039	2,870	82,207	142,148	71.3	57,168	46,012	21,336	—3,714
	9 mos.	238	889,269	323,445	1,298,368	177,539	177,827	22,375	526,203	1,008,581	77.7	289,787	200,260	109,803	—31,715
Cambria & Indiana	Sept.	37	172,985	.....	173,061	14,265	58,372	454	18,627	97,522	56.35	75,535	—15,796	59,030	81,863
	9 mos.	37	1,585,731	.....	1,586,357	93,677	539,759	4,352	164,653	860,388	54.24	725,969	—50,944	612,225	655,735
Canadian Pacific Lines in Maine	Sept.	234	292,423	84,820	400,031	48,967	44,563	6,528	114,648	221,359	55.3	178,672	154,244	135,193	—4,341
	9 mos.	234	3,052,245	513,111	3,737,306	496,039	488,398	60,679	1,118,011	2,225,198	59.5	1,512,108	1,361,931	1,140,391	550,841
Canadian Pacific Lines in Vermont	Sept.	90	86,332	21,561	123,543	27,382	23,627	2,366	82,780	139,655	113.0	—16,112	—24,553	—50,282	—48,423
	9 mos.	90	850,916	108,741	1,071,489	237,587	221,673	21,848	721,262	1,234,021	115.2	—162,532	—234,057	—460,104	—316,073
Central of Georgia	Sept.	1,815	1,974,244	451,839	2,610,232	239,561	374,991	62,077	809,341	1,587,514	60.8	1,022,718	700,190	655,766	484,799
	9 mos.	1,815	15,832,618	3,086,369	20,459,499	2,125,333	3,185,793	545,603	7,103,585	13,855,953	67.7	6,603,546	5,082,009	4,890,058	3,121,160
Central of New Jersey	Sept.	660	4,220,613	657,168	5,156,333	521,758	787,077	46,174	1,808,093	3,278,743	63.6	1,877,590	1,410,034	1,119,126	763,711
	9 mos.	661	35,238,650	4,885,288	42,458,575	4,503,170	7,054,320	425,458	16,115,272	29,085,514	68.5	13,373,061	9,107,860	6,439,747	4,211,501
Central Vermont	Sept.	422	594,497	88,000	728,280	91,554	90,779	10,771	290,515	505,954	69.5	222,326	190,290	132,561	118,412
	9 mos.	422	5,138,995	575,000	6,079,298	774,986	877,836	99,546	2,376,734	4,331,419	71.2	1,747,879	1,461,019	1,049,253	1,181,277
Chesapeake & Ohio	Sept.	3,110	14,357,636	1,227,811	16,214,139	1,357,377	2,527,234	215,801	3,514,970	8,028,347	49.5	8,185,792	2,602,762	2,929,943	3,498,775
	9 mos.	3,119	121,034,677	7,312,653	132,970,260	12,279,295	22,605,789	1,985,433	30,503,090	70,671,961	53.1	62,298,299	21,052,601	23,322,850	31,132,266
Chicago & Eastern Illinois	Sept.	913	1,701,913	393,685	2,287,813	212,531	365,750	61,434	646,679	1,367,096	59.8	920,717	620,717	455,036	140,202
	9 mos.	922	12,525,288	2,743,637	16,808,740	1,717,541	2,902,986	539,313	5,783,500	11,644,356	69.3	5,164,384	3,514,384	2,320,538	1,553,680
Chicago & Illinois Midland	Sept.	131	503,845	906	528,270	51,857	66,880	20,620	121,302	282,838	53.5	245,432	180,939	179,542	5,096
	9 mos.	131	4,341,783	7,385	4,553,099	506,357	728,877	193,518	1,116,911	2,743,083	60.2	1,810,016	790,457	717,150	781,016
Chicago & North Western	Sept.	8,125	9,905,427	1,871,350	12,815,269	1,910,842	1,928,753	198,497	3,804,847	8,240,281	64.3	4,574,988	2,899,513	2,708,170	2,264,955
	9 mos.	8,246	77,042,828	14,112,882	99,915,829	13,163,398	17,637,107	1,762,347	33,464,074	69,528,962	69.6	30,386,867	18,874,260	17,312,340	14,331,386
Chicago, Burlington & Quincy	Sept.	9,085	12,895,636	1,944,902	16,080,867	2,088,794	2,025,262	242,444	4,021,194	8,804,063	54.7	7,276,804	6,297,719	6,103,859*	2,191,548
	9 mos.	9,088	92,557,120	12,662,882	115,187,413	14,446,910	17,167,581	2,266,528	33,406,724	70,886,587	61.5	44,300,826	25,465,257	23,909,188	14,603,656
Chicago Great Western	Sept.	1,502	2,072,694	190,553	2,409,527	208,880	264,010	62,372	721,599	1,324,253	55.0	1,085,274	657,783	470,778	362,747
	9 mos.	1,502	16,213,875	1,052,002	18,437,923	2,047,593	2,439,643	553,691	6,323,329	11,928,074	64.7	6,509,849	3,783,398	2,149,834	2,207,331
Chicago, Indianapolis & Louisville	Sept.	549	834,781	91,891	996,774	121,173	177,934	30,064	300,025	664,883	66.7	331,891	288,975	232,968	277,293
	9 mos.	549	7,291,402	542,590	8,428,112	896,838	1,537,187	267,544	2,735,738	5,761,346	68.4	2,666,766	2,225,988	1,665,963	1,462,423

* The Burlington made a net credit adjustment of $1,951,482 in its federal taxes in its September accounts.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Chicago, Milwaukee, St. Paul & Pacific	Sept.	10,821	$14,315,601	$1,862,125	$17,573,928	$2,693,628	$2,188,338	$235,692	$4,677,553	$10,309,627	58.7	$7,264,301	$4,260,301	$4,013,933	$3,843,119
	9 mos.	10,821	105,512,166	11,483,598	127,994,764	19,349,556	19,022,738	2,136,472	40,615,346	85,571,982	66.9	42,422,782	25,787,782	23,160,517	21,834,012
Chicago, Rock Island & Pacific	Sept.	7,925	9,855,816	2,582,358	13,282,858	1,196,280	1,802,739	300,802	3,602,722	7,351,805	55.3	5,931,053	4,303,937	3,868,110	1,803,619
	9 mos.	7,927	73,504,847	15,784,317	95,752,303	10,143,980	14,091,062	2,600,819	30,116,112	60,874,730	63.6	34,877,573	28,433,433	25,138,386	14,334,798
Chicago, St. Paul, Minneapolis & Omaha	Sept.	1,629	1,839,271	248,746	2,233,199	276,763	290,916	40,153	859,599	1,536,998	68.8	696,201	564,037	464,285	266,568
	9 mos.	1,629	14,069,306	1,820,296	17,006,589	2,171,737	2,742,043	371,317	7,068,195	12,982,104	76.3	4,024,485	2,885,220	2,084,700	1,247,407
Clinchfield Railroad	Sept.	308	1,049,571	8,240	1,065,011	53,088	122,433	22,340	198,393	415,146	39.0	649,865	503,294	526,395	457,672
	9 mos.	308	9,044,491	56,891	9,158,152	504,188	1,243,276	192,628	1,778,242	3,887,019	42.4	5,271,133	4,244,590	4,334,568	4,178,430
Colorado & Southern	Sept.	755	715,132	221,783	1,018,880	120,623	168,332	14,954	300,353	648,550	63.7	370,330	341,338	301,018	123,200
	9 mos.	755	5,631,217	1,237,871	7,453,449	772,742	1,257,070	134,675	2,490,178	4,964,188	66.6	2,489,261	1,934,172	1,723,617	764,399
Fort Worth & Denver City	Sept.	804	736,428	289,763	1,160,908	77,619	111,359	21,648	273,096	533,979	46.0	626,929	353,185	289,773	98,475
	9 mos	804	4,977,491	1,749,994	7,673,867	656,804	956,092	196,673	2,100,582	4,295,373	56.0	3,378,494	2,698,884	2,350,086	749,874
Colorado & Wyoming	Sept.	42	107,483	.....	155,175	15,806	11,898	851	49,133	82,188	52.9	72,987	9,928	8,920	29,815
	9 mos.	42	873,028	.....	1,361,471	138,549	116,805	7,898	461,472	764,579	56.1	596,892	212,759	207,704	312,677
Columbus & Greenville	Sept.	168	126,507	4,901	141,781	20,598	15,609	4,970	42,625	95,460	67.3	46,321	30,950	29,109	14,001
	9 mos.	168	906,201	31,979	1,001,289	205,688	159,518	41,348	330,392	841,416	84.0	159,873	46,885	59,427	104,546
Delaware & Hudson	Sept.	849	3,501,791	235,915	3,850,641	353,439	760,877	42,807	1,181,686	2,441,967	63.4	1,408,674	809,324	759,987	1,004,378
	9 mos.	849	31,750,586	1,231,265	33,825,470	3,298,589	6,568,793	400,033	10,755,869	21,972,932	65.0	11,852,538	7,169,772	6,593,535	6,457,750
Delaware, Lackawanna & Western	Sept.	984	4,954,356	849,673	6,400,808	692,342	926,374	109,495	2,249,394	4,143,667	64.7	2,257,141	1,131,141	1,080,869	1,112,512
	9 mos.	985	41,853,914	6,697,476	53,552,474	5,074,826	8,230,523	983,465	20,280,502	36,017,288	67.3	17,535,186	8,544,986	8,204,527	8,453,244
Denver & Rio Grande Western	Sept.	2,405	4,884,443	635,994	5,741,866	348,989	764,515	88,866	1,423,400	2,782,071	48.5	2,959,795	2,711,540	2,586,483	1,010,965
	9 mos.	2,420	32,305,643	3,080,282	36,985,005	2,905,453	6,510,340	798,836	10,896,568	22,262,514	60.2	14,722,491	12,591,707	12,132,420	2,484,118
Denver & Salt Lake	Sept.	232	285,903	6,029	304,478	27,260	48,002	2,510	88,283	176,510	58.0	127,968	99,707	152,687	173,823
	9 mos.	232	1,833,952	51,079	1,972,685	271,941	406,063	23,327	640,850	1,432,147	72.6	540,538	300,238	758,324	580,703
Detroit & Mackinac	Sept.	242	137,658	5,153	154,157	19,073	11,486	636	32,169	66,466	43.1	87,691	83,455	71,335	5,888
	9 mos.	242	644,670	36,292	765,035	122,821	116,255	6,593	242,491	517,202	67.6	247,833	214,294	173,673	22,327
Detroit & Toledo Shore Line	Sept.	50	333,889	.....	335,127	28,249	22,862	9,347	82,076	150,258	44.8	184,869	143,655	97,938	53,884
	9 mos.	50	3,091,871	.....	3,101,973	286,043	231,204	82,160	809,717	1,480,951	47.7	1,621,022	1,055,741	590,108	701,410
Detroit, Toledo & Ironton	Sept.	463	661,285	731	701,154	78,782	114,020	13,709	160,930	388,028	55.3	313,126	173,295	184,692	231,937
	9 mos.	465	5,899,982	4,406	6,228,501	690,124	1,003,229	125,030	1,553,280	3,573,956	57.4	2,654,545	1,518,315	1,451,760	2,257,196
Duluth, Missabe & Iron Range	Sept.	546	5,312,025	3,391	6,165,916	258,561	372,245	4,262	904,478	1,577,830	25.6	4,588,086	1,067,812	1,068,729	1,527,915
	9 mos.	543	29,259,312	18,749	34,070,412	2,410,175	3,119,662	38,285	5,509,946	11,403,826	33.5	22,666,586	5,463,785	5,454,099	12,155,764
Duluth, Winnipeg & Pacific	Sept.	175	154,000	1,900	160,300	31,416	24,409	1,966	58,871	120,233	75.0	40,067	27,285	9,395	—10,968
	9 mos.	175	1,525,700	11,500	1,569,100	303,413	225,830	18,153	585,920	1,164,415	74.2	404,685	283,207	103,714	34,784
Elgin, Joliet & Eastern	Sept.	392	2,604,081	37	2,963,558	209,943	551,658	15,847	887,545	1,711,881	57.8	1,251,677	436,257	364,858	259,189
	9 mos.	392	22,216,693	169	25,133,806	1,825,627	4,793,505	148,272	8,332,959	15,546,933	61.9	9,586,873	3,282,830	2,229,713	5,026,863
Erie	Sept.	2,243	10,401,333	697,138	11,874,336	1,214,246	1,842,168	191,737	3,648,032	7,237,876	61.0	4,636,460	2,870,358	2,476,419	2,115,161
	9 mos.	2,249	87,259,390	5,378,928	98,547,245	9,429,670	16,187,057	1,743,184	32,780,957	63,089,076	64.0	35,458,169	21,690,484	18,039,508	16,498,243
Florida East Coast	Sept.	685	10,479,929	699,584	1,866,709	194,858	221,862	31,875	422,601	949,352	50.9	917,357	839,932	793,863	—9,208
	9 mos.	685	8,421,622	4,814,076	14,360,615	1,437,766	1,705,222	299,345	4,070,587	8,255,537	57.5	6,105,078	5,411,268	5,063,294	1,193,817
Georgia Railroad	Sept.	329	656,875	145,870	846,716	72,716	80,460	20,798	242,922	432,922	51.1	413,794	389,139	371,730	134,934
	9 mos.	329	5,279,925	894,728	6,487,258	518,044	699,111	190,802	2,107,128	3,659,001	65.4	2,828,257	2,625,487	2,520,736	927,537
Georgia & Florida	Sept.	408	129,412	6,735	143,216	38,884	20,617	9,302	46,597	122,230	85.3	20,986	11,868	6,115	23,178
	9 mos.	408	1,265,465	36,187	1,346,407	323,518	178,019	89,325	439,982	1,088,644	80.9	257,763	176,069	103,958	81,059
Grand Trunk Western	Sept.	1,026	2,551,000	174,000	2,876,000	324,088	408,313	37,574	966,836	1,822,986	63.4	1,053,014	907,165	838,858	564,282
	9 mos.	1,026	19,806,000	1,247,000	22,426,000	2,920,005	3,976,278	346,934	8,500,115	16,470,224	73.4	5,955,776	4,640,620	4,020,389	5,114,055
Canadian National Lines in New England	Sept.	172	105,700	10,300	125,600	66,232	21,417	2,529	78,061	178,174	141.9	—52,574	—71,094	—101,522	—37,023
	9 mos.	172	1,470,100	52,800	1,653,100	476,390	226,759	23,096	808,313	1,637,362	99.0	15,738	—150,942	—643,074	—440,278
Great Northern	Sept.	8,117	15,835,809	918,267	18,056,777	1,745,003	2,288,983	204,379	3,885,398	8,490,258	47.0	9,566,519	5,182,481	4,951,872	4,161,213
	9 mos.	8,086	101,940,442	5,722,363	116,575,977	14,149,707	19,292,603	1,863,242	30,006,931	68,244,605	58.5	48,331,372	26,233,000	25,121,586	22,871,982
Green Bay & Western	Sept.	234	191,934	397	197,683	44,322	20,226	6,507	56,023	132,874	67.2	64,809	38,918	32,876	30,954
	9 mos.	234	1,640,269	3,297	1,693,845	332,259	206,330	78,458	501,164	1,167,285	68.9	526,560	330,767	257,819	232,753
Gulf & Ship Island	Sept.	259	171,013	52,190	244,938	29,179	23,244	2,727	89,178	153,543	62.7	91,395	76,432	56,735	3,665
	9 mos.	259	1,404,454	214,441	1,756,472	269,540	215,115	27,335	659,127	1,235,056	70.3	521,416	363,563	229,229	49,277

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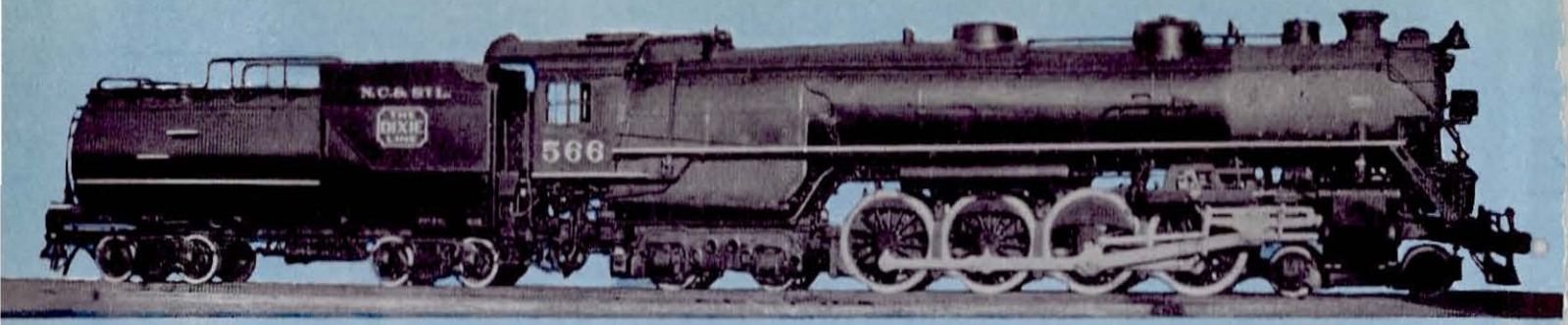
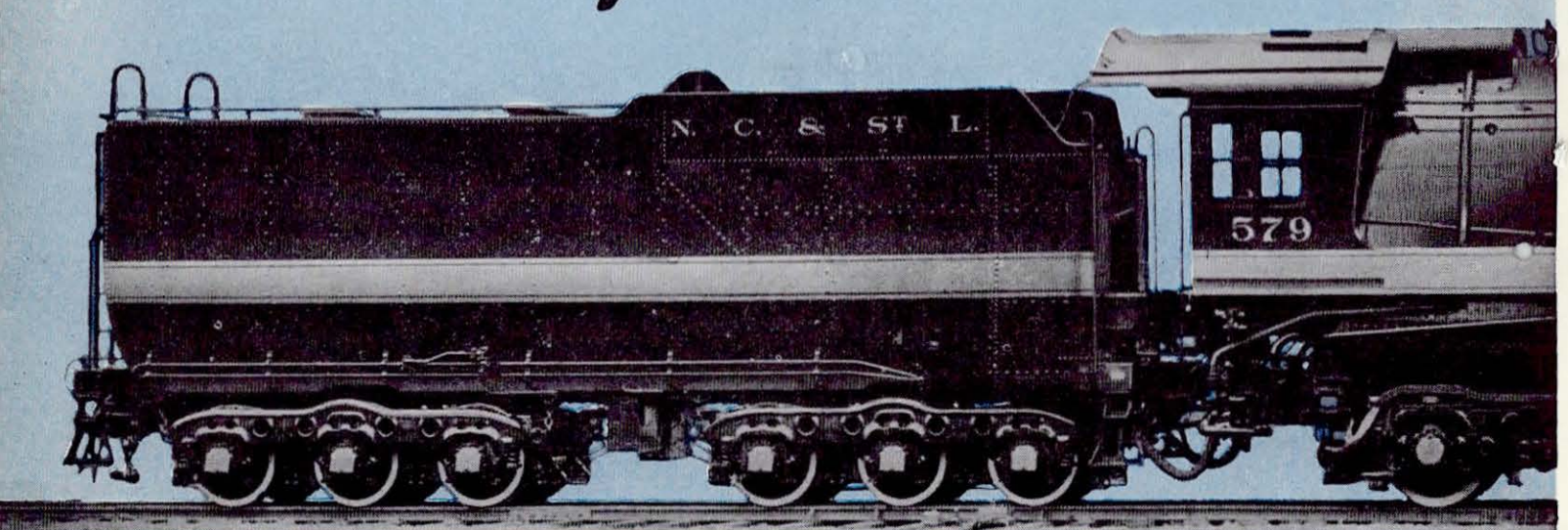


A Good Design in 1930

THE DIXIE LINE

Further Improved in 1942



THE Nashville, Chattanooga and St. Louis Railway placed in service in 1930 five 4-8-4 type locomotives for the operation of its heavy through passenger trains. In recent years however a steady increase in traffic on its banner trains, the Dixie Flyer, Dixie Limited, The Lookout and the Dixie Flagler has created a vital need for more motive power. As a result, ten new and improved 4-8-4 type locomotives were delivered recently by Alco.

The design of the new locomotives was based principally on that of the original. The new locomotives are equipped with all the latest appurtenances for greater efficiency, serviceability and reliability. They are successfully handling the heaviest trains on the most difficult Cumberland Mountain section between Chattanooga and Nashville, a division of the road replete with curves and ruling grades which demands locomotives of proven stamina.

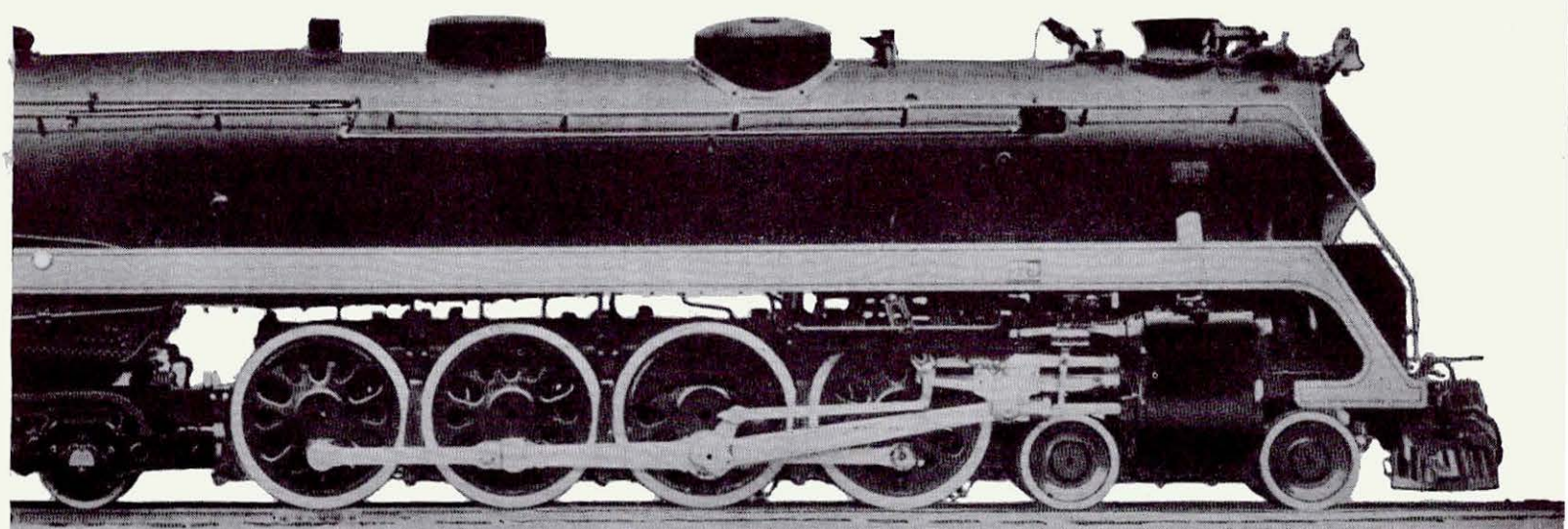
DIMENSIONS AND WEIGHTS OF THE NEW 4-8-4's

Cylinders 25" x 30"	Wt. of engine in working order	399,000 lb.
Dia. Driving Wheels 70"	Wt. on drivers	228,000 lb.
Boiler Pressure 250 lb.	Tractive Power	57,000 lb.

AMERICAN LOCOMOTIVE

Manufacturers of Mobile Power

Steam, Diesel and Electric Locomotives, Marine Diesels, Tanks, Gun Carriages and other Ordnance



REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Gulf, Mobile & Ohio	Sept.	1,969	$2,750,776	$188,274	$3,042,769	$412,220	$444,705	$85,629	$786,472	$1,827,817	60.0	$1,214,952	$716,852	$530,189	$414,596
	9 mos.	1,969	21,909,152	859,796	23,575,723	3,096,267	3,541,220	778,374	6,411,139	14,715,641	62.4	8,860,082	5,370,582	3,796,624	2,878,610
Illinois Central	Sept.	4,853	12,981,731	1,955,535	15,789,550	2,522,839	2,996,933	199,153	4,220,779	10,428,567	66.0	5,360,983	2,741,703	2,177,861	1,260,890
	9 mos.	4,925	106,830,694	13,613,803	127,682,733	15,039,084	25,670,767	1,964,296	37,961,481	84,736,361	66.4	42,946,372	20,750,615	17,554,075	16,276,051
Yazoo & Mississippi Valley	Sept.	1,525	3,334,055	323,256	3,774,334	345,845	348,251	32,558	830,634	1,633,095	43.3	2,141,239	1,954,532	1,794,332	782,336
	9 mos.	1,544	22,575,293	1,596,185	25,078,799	1,754,298	3,094,563	321,088	6,732,762	12,521,830	49.9	12,556,969	11,034,509	9,972,255	3,031,473
Illinois Central System	Sept.	6,378	16,315,786	2,278,791	19,563,884	2,868,684	3,345,184	231,711	5,051,413	12,061,662	61.7	7,502,222	4,693,877	3,972,106	2,044,639
	9 mos.	6,469	129,405,987	15,209,988	152,761,532	16,793,382	28,765,330	2,285,384	44,694,243	97,258,191	63.7	55,503,341	31,735,863	27,568,546	19,376,240
Illinois Terminal	Sept.	476	588,636	146,353	812,076	55,126	73,868	18,119	234,078	403,366	49.67	408,710	278,293	246,769	90,827
	9 mos.	476	4,864,151	986,362	6,469,255	538,540	734,163	168,213	1,966,404	3,648,804	56.40	2,820,451	1,893,619	1,682,156	1,187,003
Kansas City Southern	Sept.	880	2,987,173	276,237	3,457,852	673,530	334,851	57,123	773,882	1,930,437	55.8	1,527,415	833,415	609,280	416,799
	9 mos.	880	21,324,165	1,668,731	24,525,995	3,543,451	3,042,296	514,699	5,919,767	13,751,615	56.1	10,774,380	6,742,380	4,952,224	3,177,510
Kansas, Oklahoma & Gulf	Sept.	328	293,119	995	296,805	32,365	14,913	9,385	67,647	134,531	45.3	162,274	101,376	74,969	70,052
	9 mos.	328	2,187,526	6,568	2,217,836	221,536	121,781	86,932	535,040	1,064,502	48.0	1,153,334	714,271	521,679	632,952
Lake Superior & Ishpeming	Sept.	156	289,741	148	366,886	32,741	35,460	625	61,154	137,922	37.6	228,964	179,804	187,275	129,875
	9 mos.	156	2,122,160	681	2,720,243	291,726	350,136	5,919	491,266	1,207,640	44.4	1,512,603	685,534	746,735	903,815
Lehigh & Hudson River	Sept.	96	266,645	1,888	272,339	42,259	30,498	4,086	83,256	166,534	61.1	105,805	58,591	29,033	48,479
	9 mos.	96	2,558,217	27,558	2,604,546	283,953	269,813	39,309	722,418	1,378,387	52.9	1,226,159	601,373	312,879	278,066
Lehigh & New England	Sept.	190	562,694	.....	565,775	40,738	107,938	6,363	149,866	321,020	56.7	244,755	130,993	152,761	120,125
	9 mos.	190	4,646,197	.....	4,673,054	374,658	922,683	64,332	1,304,125	2,821,406	60.4	1,851,648	1,013,468	1,136,985	1,103,431
Lehigh Valley	Sept.	1,262	6,355,000	425,543	7,256,891	590,775	1,123,150	103,675	2,460,286	4,453,148	61.4	2,803,743	1,696,717	1,201,391	1,091,646
	9 mos.	1,263	50,083,797	2,721,251	55,981,250	5,090,490	8,924,721	947,302	20,319,013	36,713,443	65.6	19,267,807	11,914,210	8,618,257	8,485,525
Louisiana & Arkansas	Sept.	877	1,417,798	90,539	1,569,705	324,023	167,020	30,277	319,211	895,548	57.1	674,157	184,413	105,867	264,965
	9 mos.	877	9,839,095	654,315	10,918,266	1,885,090	1,296,904	282,683	2,544,567	6,430,763	58.9	4,487,503	2,319,855	1,717,933	1,694,066
Louisville & Nashville	Sept.	4,751	11,932,966	2,583,657	15,333,921	1,300,400	2,344,227	187,658	4,207,578	8,471,912	55.2	6,862,009	2,692,969	2,993,392	2,715,554
	9 mos.	4,788	99,047,439	15,554,292	120,761,816	10,883,279	20,612,613	1,746,572	35,749,862	72,492,745	60.0	48,269,071	14,788,026	16,375,366	19,128,655
Maine Central	Sept.	991	1,078,530	229,071	1,411,557	193,048	248,947	11,987	460,163	958,819	67.9	452,738	218,101	223,201	212,881
	9 mos.	991	10,287,700	1,675,698	12,874,425	1,786,883	2,388,511	111,650	4,354,696	9,028,497	70.1	3,845,928	2,210,598	1,974,194	2,191,261
Midland Valley	Sept.	351	124,945	6	127,801	16,982	9,322	1,951	36,990	69,932	54.7	57,869	46,338	37,817	79,743
	9 mos.	351	1,055,906	70	1,076,668	164,415	86,229	21,688	329,339	656,963	61.0	419,705	302,918	213,744	314,984
Minneapolis & St. Louis	Sept.	1,409	1,161,840	39,564	1,241,196	174,085	170,582	57,321	350,396	796,058	64.1	445,138	380,344	344,345	233,002
	9 mos.	1,409	9,128,140	220,890	9,688,686	1,458,659	1,419,340	512,192	3,082,714	6,870,272	70.9	2,818,414	2,296,326	1,996,230	1,113,402
Minneapolis, St. Paul & Sault Ste. Marie	Sept.	4,277	4,113,336	169,594	4,544,204	675,499	616,549	68,282	1,331,855	2,793,185	61.5	1,751,019	1,269,871	1,192,087	878,326
	9 mos.	4,277	28,016,691	1,078,448	31,064,462	4,570,009	5,097,637	622,880	11,180,744	22,444,719	72.3	8,619,743	5,731,607	5,123,427	4,561,134
Duluth, South Shore & Atlantic	Sept.	550	453,215	21,118	503,503	63,839	42,561	7,439	142,188	262,569	52.1	240,934	220,822	205,896	65,442
	9 mos.	550	2,877,007	126,333	3,205,964	542,157	462,562	74,580	1,088,482	2,228,967	69.5	976,997	809,072	745,704	457,270
Spokane International	Sept.	152	162,956	1,531	171,942	34,602	7,886	2,680	35,459	86,455	50.3	85,487	50,491	40,146	26,306
	9 mos.	152	1,026,365	14,207	1,109,123	186,713	76,297	23,698	276,806	606,307	54.7	502,816	317,879	261,959	151,585
Mississippi Central	Sept.	158	178,946	10,718	191,371	21,579	15,531	8,635	37,037	88,129	46.1	103,242	67,943	55,398	—469
	9 mos.	158	1,122,145	38,142	1,173,976	214,977	129,859	73,541	264,560	724,497	61.7	449,479	356,651	287,763	121,097
Missouri & Arkansas	Sept.	365	154,169	2,959	163,696	52,121	21,105	7,799	56,062	142,794	87.2	20,902	14,226	1,504	—2,668
	9 mos.	365	1,132,184	19,495	1,220,226	257,065	136,014	70,217	425,911	940,800	77.1	279,426	152,210	48,513	53,797
Missouri-Illinois	Sept.	172	307,724	236	309,278	29,982	26,026	3,848	68,618	134,089	43.4	175,189	84,133	67,306	56,631
	9 mos.	172	2,385,000	2,267	2,399,093	271,092	238,094	31,696	560,325	1,147,708	47.8	1,251,385	653,918	537,346	490,728
Missouri-Kansas-Texas Lines	Sept.	3,203	4,085,203	731,060	5,196,050	1,168,202	761,018	115,784	1,424,284	3,649,117	70.2	1,546,933	1,140,510	814,825	467,829
	9 mos.	3,293	31,078,013	5,203,020	39,120,901	6,850,150	6,030,419	1,073,083	11,994,831	27,452,061	70.2	11,668,840	9,029,044	6,303,436	3,262,843
Missouri Pacific	Sept.	7,143	14,242,600	1,781,003	17,204,902	1,822,756	2,116,334	265,976	4,675,116	9,312,634	54.1	7,892,268	5,823,775	4,821,323	2,602,256
	9 mos.	7,135	103,687,506	12,315,617	124,362,994	13,174,655	17,182,366	2,443,574	36,336,893	72,501,203	58.3	51,861,791	42,353,103	35,832,237	17,223,994
Gulf Coast Lines	Sept.	1,767	2,465,800	208,646	2,788,182	297,635	263,331	46,735	636,354	1,320,552	47.4	1,467,630	987,277	823,311	284,459
	9 mos.	1,770	20,150,429	1,267,266	22,284,389	2,583,385	2,242,758	434,596	5,838,486	11,714,585	52.6	10,569,804	9,019,347	7,186,072	2,578,065
International Great Northern	Sept.	1,155	1,533,479	327,855	2,028,320	231,679	283,580	31,925	578,909	1,198,564	59.1	829,756	753,641	666,984	189,521
	9 mos.	1,155	11,894,706	1,796,910	15,003,048	2,012,707	2,261,219	284,049	5,039,537	10,211,201	68.1	4,791,847	4,124,831	3,328,410	983,006
Monongahela	Sept.	171	567,529	932	570,963	60,300	47,978	459	123,670	235,450	41.2	335,513	210,195	117,888	220,152
	9 mos.	172	5,272,218	7,130	5,299,173	563,145	402,870	4,829	1,172,800	2,171,880	41.0	3,127,293	2,001,384	1,149,252	1,420,033

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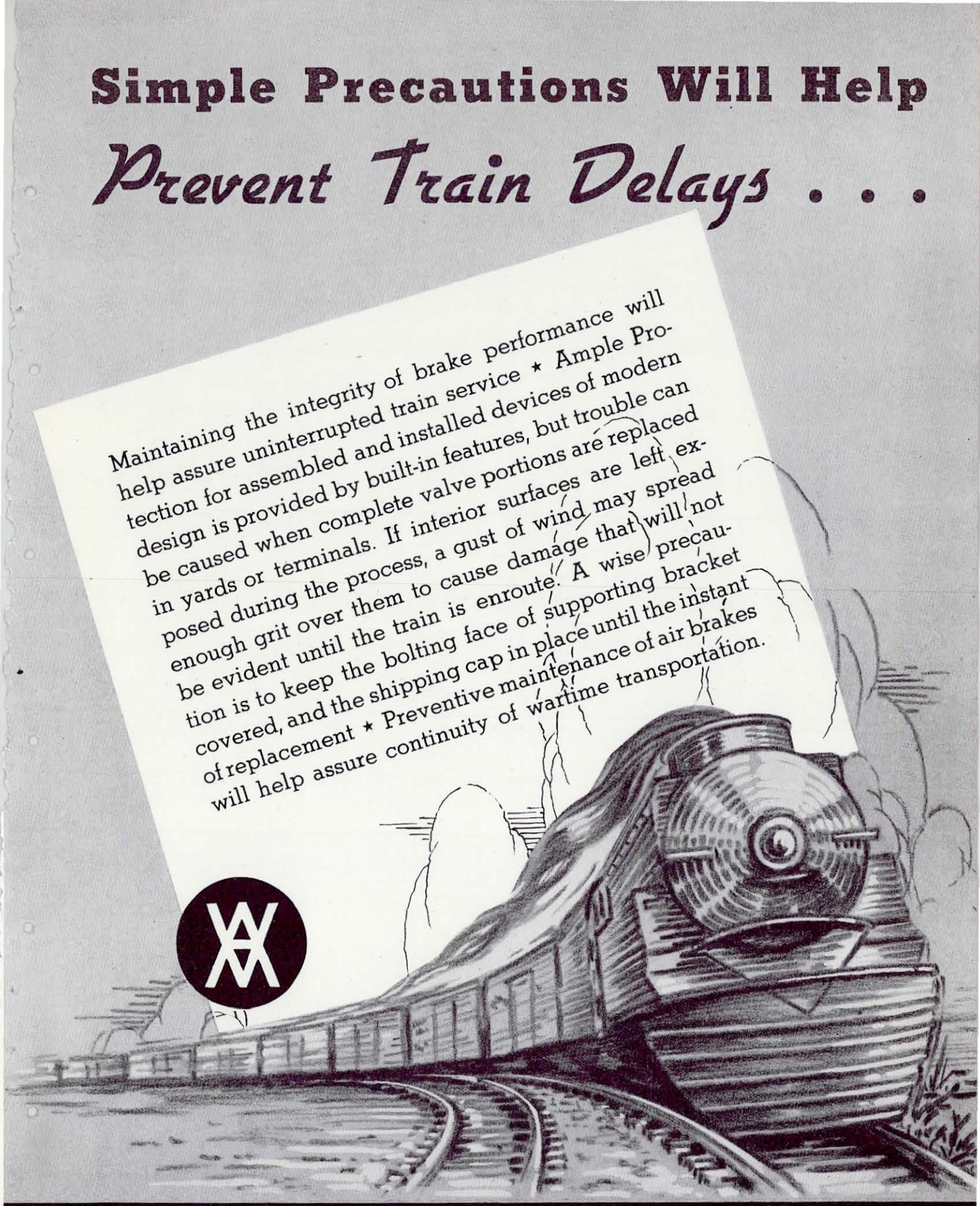
Simple Precautions Will Help

Prevent Train Delays . . .

Maintaining the integrity of brake performance will help assure uninterrupted train service ★ Ample Protection for assembled and installed devices of modern design is provided by built-in features, but trouble can be caused when complete valve portions are replaced in yards or terminals. If interior surfaces are left exposed during the process, a gust of wind may spread enough grit over them to cause damage that will not be evident until the train is enroute. A wise precaution is to keep the bolting face of supporting bracket covered, and the shipping cap in place until the instant of replacement ★ Preventive maintenance of air brakes will help assure continuity of wartime transportation.



WESTINGHOUSE AIR BRAKE CO.

WILMERDING, PENNSYLVANIA

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Montour	Sept.	51	$254,489	.....	$255,691	$17,855	$53,368	$797	$56,033	$135,454	53.0	$120,237	$39,458	$81,676	$89,470
	9 mos.	51	2,013,097	.....	2,026,232	145,445	471,272	7,422	502,852	1,193,703	58.9	832,529	247,894	584,457	625,342
Nashville, Chattanooga & St. Louis	Sept.	1,111	2,376,620	533,910	3,135,649	275,530	459,328	75,137	873,158	1,776,118	56.6	1,359,531	819,147	746,653	333,286
	9 mos.	1,111	16,375,593	2,848,842	20,785,586	2,175,243	3,661,104	662,431	6,942,876	14,117,389	67.9	6,668,197	3,922,339	3,634,437	2,505,557
Nevada Northern	Sept.	165	56,633	1,388	60,686	10,739	3,631	1,234	10,315	31,313	51.6	29,373	11,116	13,246	21,299
	9 mos.	165	495,457	7,956	531,578	92,043	31,373	10,819	86,719	274,181	51.6	257,397	97,905	116,820	147,473
New York Central	Sept.	10,911	38,657,465	11,462,221	55,089,267	7,509,610	9,056,917	635,049	16,679,854	35,655,276	64.7	19,433,991	12,009,490	10,444,808	6,463,503
	9 mos.	10,915	311,845,623	79,222,892	428,793,359	48,561,302	80,623,737	5,304,136	144,848,144	294,334,147	68.6	134,459,212	72,607,366	58,856,444	46,146,942
Pittsburgh & Lake Erie	Sept.	233	2,766,123	81,908	2,925,148	241,872	855,775	38,324	774,696	2,006,656	68.6	918,492	225,990	769,843	675,335
	9 mos.	233	24,020,128	637,978	25,317,611	2,105,397	7,234,292	357,934	7,105,040	17,667,114	69.8	7,650,497	764,318	4,869,602	5,492,201
New York, Chicago & St. Louis	Sept.	1,688	7,793,184	137,702	8,058,103	638,248	946,418	129,497	2,124,246	3,993,722	49.6	4,064,381	1,693,747	1,146,786	1,453,957
	9 mos.	1,688	61,508,299	1,415,840	64,009,094	5,218,701	7,741,231	1,176,706	18,684,569	34,144,668	53.3	29,864,426	14,444,396	9,659,741	11,172,120
New York, New Haven & Hartford	Sept.	1,839	7,807,642	5,565,315	14,491,144	1,626,002	1,804,734	139,077	4,120,111	8,277,996	57.1	6,213,148	3,676,548	2,662,529	1,930,808
	9 mos.	1,842	66,101,003	38,707,623	113,258,921	11,537,725	15,179,896	1,188,283	35,216,760	68,081,034	60.1	45,177,887	29,590,088	21,161,703	13,047,263
New York Connecting	Sept.	21	193,463	.....	215,606	84,837	9,813	.....	40,848	137,039	63.6	78,567	—6,533	139,187	281,203
	9 mos.	21	2,039,664	.....	2,173,639	581,307	88,298	.....	360,341	1,044,077	48.0	1,129,562	657,682	1,375,938	2,515,318
New York, Ontario & Western	Sept.	547	511,656	40,961	597,721	81,548	132,240	19,303	304,595	559,540	93.6	38,181	6,669	—24,431	38,443
	9 mos.	547	4,826,764	472,070	5,699,635	655,878	1,084,917	178,559	2,740,900	4,851,215	85.1	848,420	565,299	139,433	—118,493
New York, Susquehanna & Western	Sept.	262	400,527	38,231	467,193	26,796	27,111	4,088	145,074	217,940	46.6	249,253	170,999	119,669	83,701
	9 mos.	262	2,728,787	317,004	3,208,810	245,030	280,755	26,685	1,144,097	1,806,872	56.3	1,401,938	1,078,883	706,954	589,240
Norfolk & Western	Sept.	2,159	11,210,916	1,181,834	12,726,984	1,268,364	2,399,202	155,012	2,485,221	6,568,700	51.6	6,158,284	1,933,791	2,572,943	1,753,163
	9 mos.	2,169	93,492,143	5,952,714	102,177,420	10,509,718	21,129,612	1,408,714	21,404,141	56,795,259	55.6	45,382,161	11,671,268	16,220,913	23,199,592
Norfolk Southern	Sept.	733	707,087	31,004	766,421	107,694	71,627	28,521	243,340	478,873	62.3	287,548	169,058	125,571	110,461
	9 mos.	733	5,493,369	167,173	5,854,128	913,954	622,072	254,318	1,793,204	3,813,030	65.1	2,041,098	1,262,921	991,356	612,105
Northern Pacific	Sept.	6,889	10,087,212	937,314	11,886,324	1,413,203	1,640,788	175,071	3,032,401	6,662,587	56	5,223,737	2,948,557	3,332,117	2,727,459
	9 mos.	6,889	70,615,434	5,724,048	82,586,125	11,115,753	15,694,892	1,578,558	24,416,964	56,085,485	67.9	26,500,640	14,775,690	18,100,205	15,180,019
Northwestern Pacific	Sept.	335	501,358	13,244	527,781	95,005	45,832	2,873	146,437	297,263	56.3	230,518	207,778	184,812	27,765
	9 mos.	343	3,315,044	95,661	3,567,117	901,633	459,424	22,255	1,286,183	2,734,566	76.7	832,551	635,576	471,291	—99,766
Oklahoma City-Ada-Atoka	Sept.	132	134,348	2	136,206	12,107	4,550	990	31,291	53,379	39.2	82,827	53,021	38,190	10,848
	9 mos.	132	934,750	4	947,788	109,225	34,957	9,480	223,997	407,542	43.0	540,246	350,383	242,695	22,408
Pennsylvania	Sept.	10,215	54,989,951	16,788,632	77,659,468	8,301,923	11,603,672	836,236	23,859,632	46,720,247	60.2	30,939,221	18,353,779	17,165,666	11,032,651
	9 mos.	10,215	449,244,975	117,325,339	609,241,455	66,335,237	110,750,369	7,390,247	206,306,888	407,718,779	66.9	201,522,676	104,875,164	93,685,208	73,810,721
Long Island	Sept.	378	1,059,172	2,101,582	3,295,672	646,307	422,840	9,657	1,263,498	2,389,174	72.5	906,498	396,108	210,489	42,047
	9 mos.	378	8,445,797	16,389,134	26,000,047	3,560,364	3,899,601	96,012	10,547,538	18,589,144	71.5	7,410,903	3,670,557	1,992,651	1,123,090
Pennsylvania-Reading Seashore Lines	Sept.	406	461,824	450,686	949,632	110,184	78,778	9,581	423,754	641,443	67.5	308,189	188,374	62,832	60,350
	9 mos.	406	3,904,116	3,052,307	7,235,635	908,139	886,550	82,246	3,466,049	5,509,107	76.1	1,726,528	733,924	—268,510	—458,437
Pere Marquette	Sept.	2,054	3,449,079	176,834	3,832,819	567,473	761,894	68,548	1,258,366	2,771,236	72.3	1,061,583	604,222	570,373	581,130
	9 mos.	2,055	28,561,695	1,470,373	31,554,775	4,165,466	6,518,042	625,295	11,238,773	23,593,142	74.8	7,961,633	4,691,547	4,237,960	4,791,643
Pittsburg & Shawmut	Sept.	97	115,591	.....	115,998	34,049	15,205	2,345	29,028	89,478	77.1	26,520	22,574	20,292	31,624
	9 mos.	97	924,354	.....	929,823	144,172	166,309	18,856	235,264	611,281	65.7	318,542	288,824	262,159	152,410
Pittsburgh & West Virginia	Sept.	136	571,976	.....	594,916	89,779	108,614	19,650	126,844	368,975	62.0	225,941	201,095	200,287	150,348
	9 mos.	136	4,601,630	350	4,764,985	757,552	901,357	175,078	1,066,327	3,120,697	65.5	1,644,288	1,256,695	1,304,250	1,129,697
Pittsburg, Shawmut & Northern	Sept.	190	115,498	.....	116,714	15,514	27,664	1,012	38,369	88,037	75.4	28,677	22,234	16,944	29,682
	9 mos.	190	1,097,438	.....	1,110,461	203,289	262,518	10,364	386,934	913,346	82.2	197,115	135,532	66,460	233,310
Reading	Sept.	1,422	7,948,489	670,344	9,053,120	753,848	1,617,580	69,205	2,786,815	5,399,302	59.6	3,653,818	2,376,675	2,269,891	1,729,099
	9 mos.	1,427	67,065,312	5,140,663	75,587,976	6,195,640	14,414,174	664,924	24,597,988	47,413,139	62.7	28,174,837	16,901,206	15,305,649	12,422,018
Richmond, Fredericksburg & Potomac	Sept.	118	1,327,707	1,085,767	2,599,325	132,080	197,055	11,614	522,945	938,817	36.1	1,660,508	536,214	431,176	132,833
	9 mos.	118	10,743,203	7,498,878	19,783,836	1,119,233	1,729,879	97,302	4,851,398	8,462,307	42.8	11,321,529	3,367,028	2,284,527	2,000,996
Rutland	Sept.	407	244,231	64,999	375,855	47,012	61,884	10,628	163,710	295,020	78.5	80,835	60,780	65,186	56,294
	9 mos.	407	2,245,517	390,050	3,186,001	359,224	592,658	96,354	1,440,304	2,594,708	81.4	591,293	408,149	434,278	206,628
St. Louis-San Francisco	Sept.	4,674	6,432,896	1,286,144	8,254,001	718,414	1,338,863	134,745	2,333,742	4,800,319	58.2	3,453,682	3,062,068	3,037,171	1,368,893
	9 mos.	4,735	47,015,068	8,325,950	59,504,217	6,003,715	10,717,480	1,209,409	19,484,932	39,655,837	66.6	19,848,380	16,171,698	16,259,887	8,827,699
St. Louis, San Francisco & Texas	Sept.	159	387,505	19,517	414,772	24,908	21,284	8,756	78,573	139,540	33.6	275,232	265,060	239,537	8,838
	9 mos.	159	2,251,099	75,307	2,381,120	246,930	201,758	82,323	698,920	1,283,258	53.9	1,097,862	1,005,073	765,707	106,072

Table continued on next left-hand page

REDUCES REPLACEMENTS

THE quality of the wearing materials inside the cylinders plays a very important part in the availability, efficiency, fuel consumption and maintenance cost of your Diesel power.

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Valve Bull Rings
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Hub Liners
Shoes and Wedges
Floating Rod Bushings
Finished Parts
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Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION
V. W. Ellet, *President* — E. J. Fuller, *Vice-Pres. & Gen. Mgr.*

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Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
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HUNT-SPILLER *Air Furnace* GUN IRON

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
St. Louis Southwestern Lines	Sept.	1,617	$4,095,942	$193,870	$4,395,982	$329,856	$365,662	$101,267	$1,037,845	$1,939,176	44.1	$2,456,806	$786,403	$471,484	$771,510
	9 mos.	1,617	31,742,686	1,439,240	34,031,285	3,134,536	3,522,035	868,565	8,708,272	17,123,560	50.3	16,907,725	8,998,088	6,462,178	4,867,081
Seaboard Air Line	Sept.	4,240	6,527,654	2,752,156	10,073,848	889,170	1,354,550	198,358	2,684,599	5,489,650	54.5	4,584,198	2,584,198	2,250,014	931,436
	9 mos.	4,271	54,211,595	18,742,163	77,581,139	7,662,585	11,231,881	1,825,733	23,087,944	46,794,790	60.3	30,786,349	24,486,349	21,634,085	7,776,652
Southern Railway	Sept.	6,519	14,301,925	3,749,290	19,141,126	b,716,307	2,636,089	195,716	4,647,450	9,742,417	50.9	9,398,709	4,780,428	4,574,315	3,233,929
	9 mos.	6,519	113,503,060	23,935,474	145,578,551	14,760,671	22,816,330	1,709,661	39,975,634	83,649,515	57.5	61,929,036	30,688,376	28,519,306	23,988,728
Alabama Great Southern	Sept.	315	1,504,865	294,758	1,885,645	121,593	239,763	22,650	459,690	888,625	47.1	997,020	233,080	141,054	231,874
	9 mos.	315	11,434,637	2,015,742	14,099,744	1,031,144	1,986,857	191,209	3,633,209	7,192,577	51.0	6,907,167	2,018,310	1,467,719	1,733,336
Cincinnati, New Orleans & Texas Pacific	Sept.	337	2,308,183	353,857	2,774,668	240,657	449,803	30,386	596,273	1,387,650	50.0	1,387,018	381,803	362,208	495,680
	9 mos.	337	18,414,156	2,634,305	21,966,699	2,146,205	4,176,624	282,595	5,125,540	12,351,538	56.2	9,615,161	3,682,019	3,508,807	4,575,306
Georgia Southern & Florida	Sept.	398	333,785	147,557	519,388	60,898	46,517	2,463	142,980	265,820	51.2	253,568	194,580	150,240	6,266
	9 mos.	398	2,398,768	946,595	3,599,999	497,369	429,366	22,874	1,102,504	2,156,318	59.9	1,443,681	878,404	646,374	440,166
New Orleans & Northeastern	Sept.	204	982,067	164,729	1,196,713	69,208	95,957	12,165	257,764	463,425	38.7	733,288	164,721	67,546	139,526
	9 mos.	204	6,887,495	1,160,453	8,408,736	607,605	630,966	101,566	2,024,177	3,588,716	42.7	4,820,020	2,196,354	1,457,351	994,774
Southern Pacific Co.	Sept.	8,378	26,164,353	6,138,197	34,963,483	2,438,849	4,963,514	434,446	9,668,436	19,070,584	54.5	15,892,899	9,021,888	7,591,537	4,436,189
	9 mos.	8,512	202,302,910	37,394,629	258,722,902	21,288,885	40,948,330	3,726,419	79,791,511	158,077,383	61.1	100,645,519	60,152,936	49,476,880	35,663,332
Southern Pacific Steamship Lines	Sept.	....	Dr. 716	Dr. 49	Dr. 765	.....	.....	.....	Cr. 180	429	...	—1,194	—1,268	—1,268	—49,935
	9 mos.	....	Dr. 732	181	2,441	79,136	12	136	21,546	124,592	In excess of 999	—122,151	—124,623	—124,623	132,364
Texas & New Orleans	Sept.	4,365	7,734,600	1,583,641	9,822,835	912,303	930,159	139,861	2,303,390	4,577,793	46.6	5,245,042	3,011,442	2,524,070	1,222,423
	9 mos.	4,402	57,783,992	8,756,228	70,352,065	7,908,144	8,184,611	1,243,650	17,994,672	37,745,828	53.7	32,606,237	18,976,669	15,373,452	9,004,502
Spokane, Portland & Seattle	Sept.	930	1,648,910	93,822	1,856,354	159,954	123,410	11,809	495,006	834,142	44.9	1,022,212	926,441	748,424	361,217
	9 mos.	934	12,553,073	522,631	13,820,490	1,482,679	1,100,395	105,848	4,007,604	7,070,435	51.2	6,750,055	5,884,708	4,711,641	2,147,254
Tennessee Central	Sept.	286	285,664	18,907	324,657	62,917	47,747	6,219	101,789	231,541	71.3	93,116	57,616	44,743	40,173
	9 mos.	286	2,652,437	103,174	2,911,861	646,585	434,087	60,859	955,811	2,212,293	76.0	699,568	473,567	340,489	341,146
Texas & Pacific	Sept.	1,903	3,353,940	1,144,106	4,877,605	432,291	707,982	87,776	1,167,926	2,602,052	53.3	2,275,553	1,227,539	1,139,327	639,618
	9 mos.	1,894	25,768,129	6,901,622	35,504,815	3,669,941	5,629,132	759,300	9,557,959	21,156,820	59.6	14,347,995	8,681,781	7,750,773	4,810,558
Texas Mexican	Sept.	162	127,898	527	151,805	26,305	18,324	3,702	36,265	92,604	61.1	59,201	52,271	45,281	40,422
	9 mos.	162	1,102,986	3,644	1,295,520	196,402	125,792	34,318	366,643	796,881	61.5	498,639	434,579	367,654	262,076
Toledo, Peoria & Western	Sept.	239	310,898	6	314,725	44,377	19,426	20,574	59,309	153,878	48.9	160,847	145,779	129,414	36,938
	9 mos.	239	2,098,744	44	2,129,140	291,490	152,109	171,087	567,771	1,300,235	61.1	828,905	703,642	568,256	296,974
Union Pacific System	Sept.	9,848	27,136,674	5,193,507	34,885,411	4,698,664	5,508,183	437,608	8,396,488	20,437,423	58.6	14,447,988	7,226,025	6,051,451	3,362,087
	9 mos.	9,860	191,987,422	29,059,150	237,598,870	33,581,022	42,223,604	3,825,423	65,461,070	155,071,402	65.3	82,527,468	38,993,298	31,533,408	16,596,897
Utah	Sept.	111	121,820	.....	121,969	19,199	40,985	475	28,455	93,429	76.6	28,540	17,455	17,763	9,493
	9 mos.	111	979,505	.....	980,152	148,118	309,207	4,414	252,374	752,537	76.8	227,615	128,080	124,029	51,268
Virginian	Sept.	660	2,126,845	6,348	2,201,726	163,759	470,230	24,308	380,754	1,084,255	49.2	1,117,471	517,471	613,007	818,098
	9 mos.	660	19,153,563	52,256	19,912,288	1,689,607	4,250,887	228,653	3,481,357	10,064,175	50.5	9,848,113	5,120,613	5,618,774	6,102,346
Wabash	Sept.	2,393	6,200,041	620,419	7,209,692	703,188	880,137	164,730	2,131,321	4,112,325	57.0	3,097,367	1,291,316	683,048	981,574
	9 mos.	2,396	49,107,167	4,007,315	56,124,754	5,973,470	7,093,777	1,444,730	18,245,900	34,541,734	61.5	21,583,020	10,698,813	6,573,611	7,296,357
Ann Arbor	Sept.	294	399,463	4,921	418,381	38,408	72,882	15,662	168,130	308,734	73.8	109,647	52,524	44,529	56,499
	9 mos.	294	3,681,642	35,027	3,830,845	370,167	720,658	135,559	1,555,899	2,901,679	75.7	929,166	488,278	363,885	501,729
Western Maryland	Sept.	853	2,615,866	25,134	2,732,866	314,831	562,601	43,876	689,146	1,679,405	61.5	1,053,461	643,461	646,309	505,058
	9 mos.	858	21,672,371	156,254	22,465,634	2,429,145	4,839,326	404,019	5,890,456	14,176,142	63.1	8,289,492	4,919,492	5,023,818	4,467,946
Western Pacific	Sept.	1,195	3,499,974	254,700	3,862,353	307,374	584,761	76,797	1,005,054	2,061,199	53.4	1,801,154	1,273,844	1,099,467	773,294
	9 mos.	1,195	23,814,618	1,429,189	25,921,438	2,568,748	3,449,737	679,932	8,309,421	15,720,475	60.6	10,200,963	8,156,440	6,922,521	2,832,595
Wheeling & Lake Erie	Sept.	507	2,033,792	8	2,153,820	228,303	351,738	38,864	577,067	1,239,382	57.5	914,438	112,880	275,150	374,264
	9 mos.	507	16,957,221	23	17,861,823	2,222,026	2,982,467	359,746	5,052,232	10,975,816	61.4	6,886,007	862,218	2,165,747	3,076,518

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
St. Louis Southwestern Lines	Sept.	1,617	$4,095,942	$193,870	$4,395,982	$329,856	$365,662	$101,267	$1,037,845	$1,939,176	44.1	$2,456,806	$786,403	$471,484	$771,510
	9 mos.	1,617	31,742,686	1,439,240	34,031,285	3,134,536	3,522,035	868,565	8,708,272	17,123,560	50.3	16,907,725	8,998,088	6,462,178	4,867,081
Seaboard Air Line	Sept.	4,240	6,527,654	2,752,156	10,073,848	889,170	1,354,550	198,358	2,684,599	5,489,650	54.5	4,584,198	2,584,198	2,250,014	931,436
	9 mos.	4,271	54,211,595	18,742,163	77,581,139	7,662,585	11,231,881	1,825,733	23,087,944	46,794,790	60.3	30,786,349	24,486,349	21,634,085	7,776,652
Southern Railway	Sept.	6,519	14,301,925	3,749,290	19,141,126	b,716,307	2,636,089	195,716	4,647,450	9,742,417	50.9	9,398,709	4,780,428	4,574,315	3,233,929
	9 mos.	6,519	113,503,060	23,935,474	145,578,551	14,760,671	22,816,330	1,709,661	39,975,634	83,649,315	57.5	61,929,036	30,688,376	28,519,306	23,988,728
Alabama Great Southern	Sept.	315	1,504,865	294,758	1,885,645	121,593	239,763	22,650	459,690	888,625	47.1	997,020	233,080	141,054	231,874
	9 mos.	315	11,434,637	2,015,742	14,099,744	1,031,144	1,986,857	191,209	3,633,209	7,192,577	51.0	6,907,167	2,018,310	1,467,719	1,733,336
Cincinnati, New Orleans & Texas Pacific	Sept.	337	2,308,183	353,857	2,774,668	240,657	449,803	30,386	596,273	1,387,650	50.0	1,387,018	381,803	362,308	495,680
	9 mos.	337	18,414,156	2,634,305	21,966,699	2,146,205	4,176,624	282,595	5,125,540	12,351,538	56.2	9,615,161	3,682,019	3,508,807	4,575,306
Georgia Southern & Florida	Sept.	398	333,785	147,557	519,388	60,898	46,517	2,463	142,980	265,820	51.2	253,568	194,580	150,240	6,266
	9 mos.	398	2,398,768	946,595	3,599,999	497,369	429,366	22,874	1,102,504	2,156,318	59.9	1,443,681	878,404	646,374	440,166
New Orleans & Northeastern	Sept.	204	982,067	164,729	1,196,713	69,208	95,957	12,165	257,764	463,425	38.7	733,288	164,721	67,546	139,526
	9 mos.	204	6,887,495	1,160,453	8,408,736	607,605	630,966	101,566	2,024,177	3,588,716	42.7	4,820,020	2,196,354	1,457,351	994,774
Southern Pacific Co.	Sept.	8,378	26,164,353	6,138,197	34,963,483	2,438,849	4,963,514	434,446	9,668,436	19,070,584	54.5	15,892,899	9,021,888	7,591,537	4,436,189
	9 mos.	8,512	202,302,910	37,394,629	258,722,902	21,288,885	40,948,330	3,726,419	79,791,511	158,077,383	61.1	100,645,519	60,152,936	49,476,880	35,663,332
Southern Pacific Steamship Lines	Sept.	....	Dr. 716	Dr. 49	Dr. 765	.....	.....	.....	Cr. 180	429	...	—1,194	—1,268	—1,268	—49,935
	9 mos.	....	Dr. 732	181	2,441	79,136	12	136	21,546	124,592	In excess of 999	—122,151	—124,623	—124,623	132,364
Texas & New Orleans	Sept.	4,365	7,734,600	1,583,641	9,822,835	912,303	930,159	139,861	2,303,390	4,577,793	46.6	5,245,042	3,011,442	2,524,070	1,222,423
	9 mos.	4,402	57,783,992	8,756,228	70,352,065	7,908,144	8,184,611	1,243,650	17,994,672	37,745,828	53.7	32,606,237	18,976,669	15,373,452	9,004,502
Spokane, Portland & Seattle	Sept.	930	1,648,910	93,822	1,856,354	159,954	123,410	11,809	495,006	834,142	44.9	1,022,212	926,441	748,424	361,217
	9 mos.	934	12,553,073	522,631	13,820,490	1,482,679	1,100,395	105,848	4,007,604	7,070,435	51.2	6,750,055	5,884,708	4,711,641	2,147,254
Tennessee Central	Sept.	286	285,664	18,907	324,657	62,917	47,747	6,219	101,789	231,541	71.3	93,116	57,616	44,743	40,173
	9 mos.	286	2,652,437	103,174	2,911,861	646,585	434,087	60,859	955,811	2,212,293	76.0	699,568	473,567	340,489	341,146
Texas & Pacific	Sept.	1,903	3,353,940	1,144,106	4,877,605	432,291	707,982	87,776	1,167,926	2,602,052	53.3	2,275,553	1,227,539	1,139,327	639,618
	9 mos.	1,894	25,768,129	6,901,622	35,504,815	3,669,941	5,629,132	759,300	9,557,959	21,156,820	59.6	14,347,995	8,681,781	7,750,773	4,810,558
Texas Mexican	Sept.	162	127,898	527	151,805	26,305	18,324	3,702	36,265	92,604	61.1	59,201	52,271	45,281	40,422
	9 mos.	162	1,102,986	3,644	1,295,520	196,402	125,792	34,318	366,643	796,881	61.5	498,639	434,579	367,654	262,076
Toledo, Peoria & Western	Sept.	239	310,898	6	314,725	44,377	19,426	20,574	59,309	153,878	48.9	160,847	145,779	129,414	36,938
	9 mos.	239	2,098,744	44	2,129,140	291,490	152,109	171,087	567,771	1,300,235	61.1	828,905	703,642	568,256	296,974
Union Pacific System	Sept.	9,848	27,136,674	5,193,507	34,885,411	4,698,664	5,508,183	437,608	8,396,488	20,437,423	58.6	14,447,988	7,226,025	6,051,451	3,262,087
	9 mos.	9,860	191,987,422	29,059,150	237,598,870	33,581,022	42,223,604	3,825,423	65,461,070	155,071,402	65.3	82,527,468	38,993,298	31,533,408	16,596,897
Utah	Sept.	111	121,820	.....	121,969	19,199	40,985	475	28,455	93,429	76.6	28,540	17,455	17,763	9,493
	9 mos.	111	979,505	.....	980,152	148,118	309,207	4,414	252,374	752,537	76.8	227,615	128,080	124,029	51,268
Virginian	Sept.	660	2,126,845	6,348	2,201,726	163,759	470,230	24,308	380,754	1,084,255	49.2	1,117,471	517,471	613,007	818,098
	9 mos.	660	19,153,563	52,256	19,912,288	1,689,607	4,250,887	228,653	3,481,357	10,064,175	50.5	9,848,113	5,120,613	5,618,774	6,102,346
Wabash	Sept.	2,393	6,200,041	620,419	7,209,692	703,188	880,137	164,730	2,131,321	4,112,325	57.0	3,097,367	1,291,316	683,048	981,574
	9 mos.	2,396	49,107,167	4,007,315	56,124,754	5,973,470	7,093,777	1,444,730	18,245,900	34,541,734	61.5	21,583,020	10,698,813	6,573,611	7,296,357
Ann Arbor	Sept.	294	399,463	4,921	418,381	38,408	72,882	15,662	168,130	308,734	73.8	109,647	52,524	44,529	56,499
	9 mos.	294	3,681,642	35,027	3,830,845	370,167	720,658	135,559	1,555,899	2,901,679	75.7	929,166	488,278	363,885	501,729
Western Maryland	Sept.	853	2,615,866	25,134	2,732,866	314,831	562,601	43,876	689,146	1,679,405	61.5	1,053,461	643,461	646,309	505,058
	9 mos.	858	21,672,371	156,254	22,465,634	2,429,145	4,839,326	404,019	5,890,456	14,176,142	63.1	8,289,492	4,919,492	5,023,818	4,467,946
Western Pacific	Sept.	1,195	3,499,974	254,700	3,862,353	307,374	584,761	76,797	1,005,054	2,061,199	53.4	1,801,154	1,273,844	1,099,467	773,294
	9 mos.	1,195	23,814,618	1,429,189	25,921,438	2,568,748	3,449,737	679,932	8,309,421	15,720,475	60.6	10,200,963	8,156,440	6,922,521	2,832,595
Wheeling & Lake Erie	Sept.	507	2,033,792	8	2,153,820	228,303	351,738	38,864	577,067	1,239,382	57.5	914,438	112,880	275,150	374,264
	9 mos.	507	16,957,221	23	17,861,823	2,222,026	2,982,467	359,746	5,052,232	10,975,816	61.4	6,886,007	862,218	2,165,747	3,076,518

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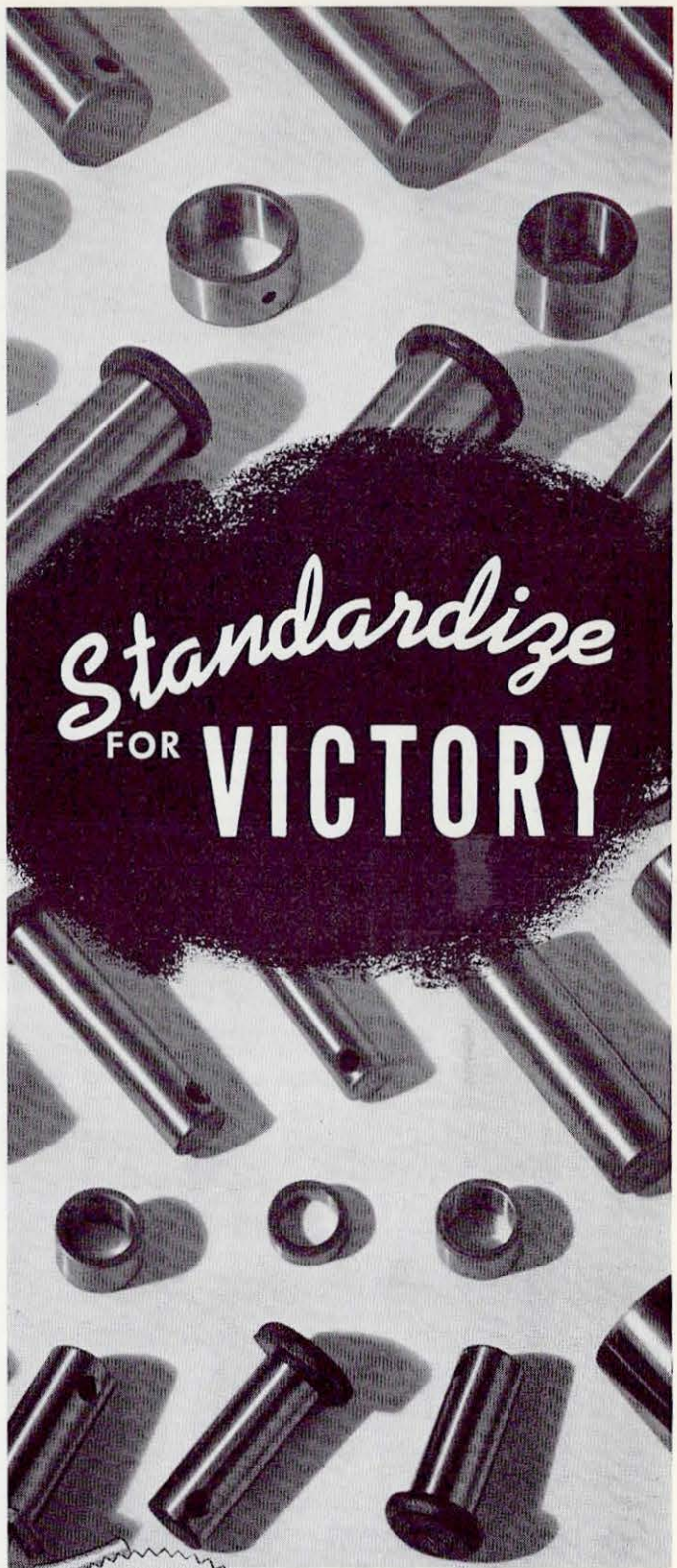

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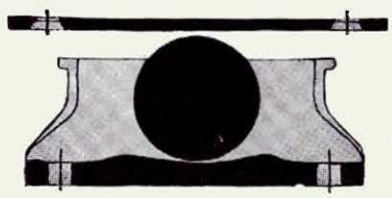

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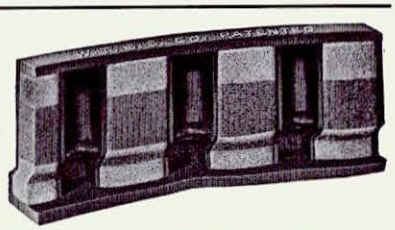

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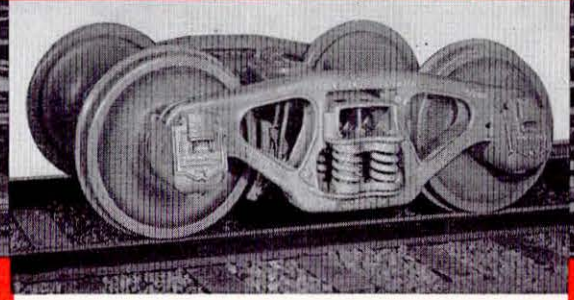

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